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ORIGINAL ARTICLES.

VACCINATION ERUPTIONS.

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THE introduction of heterogeneous substances into the human organism is occasionally followed by a cutaneous outbreak. Thus there are rashes following antitoxin injections, dermatitis medicamentosa due to the ingestion of drugs, eruptions occurring after the administration of enemata (erythema enematogenes, so-called), and skin lesions following the subcutaneous or intravenous infusion of physiological saline solution. Therefore, it is not a matter of surprise to find the different dermatological lesions resulting from the inoculation of the vaccine virus, and it is to these, based upon a study of some eighty cases, that I desire especially to call attention.

At the outset, a distinction must be drawn between those eruptions in which it may be reasonably assumed that the course of the vaccination has been instrumental in their production and development, and those which are simply incidental and which would in all likelihood have occurred without the inoculation of the virus. In other words, we must not confound eruptions due to inoculation pure and simple with those produced by extraneous infection, impetigo, contagiosa, erysipelas, abscess, furunculosis, etc.

I should reluctantly attribute any generalized eruption to vaccination, once the seat of inoculation has become thorougly healed. However, as long as the local sore remains open, as long as there is a chance for absorption, generalized vaccinal rashes may occur. Under ordinary circumstances the site of vaccination is thoroughly healed in from three to five weeks, so that after this period eruptions are uncommon, although in some cases they may appear from forty to fifty-six days after the primary inoculation.

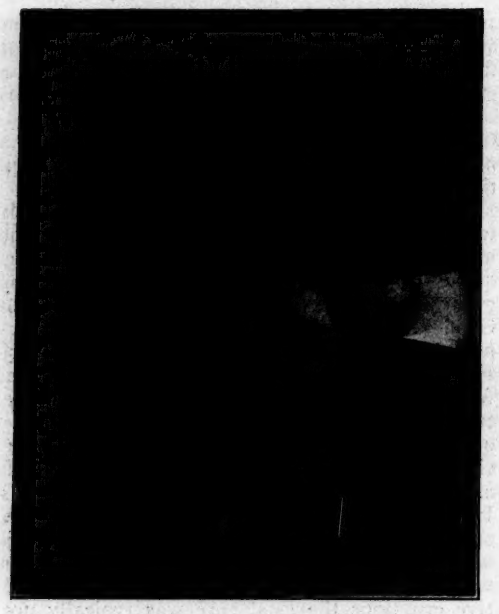
The post-vaccinal lesions are characterized by their multiformity, embracing as they do all types from the erythematous to the bullous and hemorrhagic. Why a local inoculation in one instance should produce an erythematous urticarial or morbilliform eruption and in another a vesicular, pustular, bullous, or hemorrhagic, must be explained, I believe, upon the basis of individual peculiarity and the resistance with which the tissue-cells of different organisms meet the offending ingredient. In addition, this polymorphism may be explained as dependent upon the quality and quantity of the virus introduced, the amount and rapidity of its absorption, and the length of time during which it acts. A case presenting a papular eruption might, if the absorption of virus continued, pass through the stages of vesiculation and pustulation, and a multiform erythema might become hemorrhagic or a vesicular eruption become bullous in character.

It is my intention in this paper to deal mainly with generalized vaccination eruptions and merely to touch upon the complications and sequelæ of vaccination. The children showing generalized eruptions were vaccinated at the Good Samaritan Dispensary with the ivory points of the New England Vaccine Company. From a close observation of the patients it was found that the eruption generally appeared between the ninth and fourteenth days, most frequently on the tenth or twelfth day after the vaccination. In some instances it occurred as early as the fifth day, in others as late as five weeks. In the latter class only such cases are included as showed the remains of vaccination. It did not always follow that the seat of inoculation was "bad;" on the contrary, in some very extensive eruptions the local sore was typically normal in appearance. This fact does not seem so strange, on second thought, since the force of the virus in deep, indolent ulcerations appears to be exerted on the surface, pouring its product into the local site and thus diminishing the amount absorbed into the general system. Among the types of generalized eruptions the following were recorded: Erythematous urticarial, papular, vesicular, pustular, erythema multiforme, morbilliform, bullous or pemphigoid and scarlatiniform.

In presenting this subject an endeavor has been made to collect for statistical purposes the proportion of generalized eruptions in a given series of vaccinations; that is, in a series of sufficient abnormality as to necessitate the advice of a physician; for it must be remembered that only when some complication or sequela, as, for example, an eruption, presented itself did the mothers seek our aid. For this purpose the records of Dr. Chas. W. Allen's Dermatological Clinic (Good Samaritan Dispensary) for the months of May, June, July, August and September of the years 1897, 1898 and 1899, have been collected with the following results: In 1897, 291 vaccinations were recorded with 34 generalized eruptions; in 1898, 166 with 21, and in 1899, 126 with 25; roughly speaking, fourteen per cent. (80 out of 583) of the children presented were subjects of generalized vaccinal eruptions. The report of the Dispensary shows that from May,

1897, to October, 1899, 4160 children were vaccinated; of these 583, or fourteen per cent., presented complications or sequelæ and 80 or about two per cent. generalized eruptions.

FIG. 1.



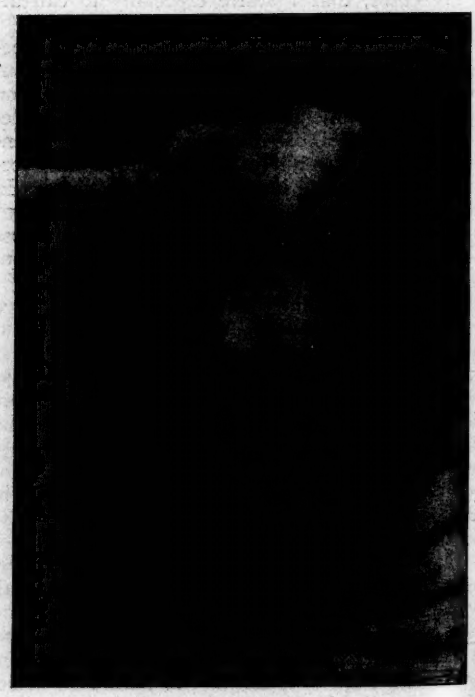
Urticarial Type. Autoinoculation to the Left.

At this juncture a word on autoinoculation and heteroinoculation may not be amiss. The most usual situation for autoinoculation is an inch or two above or below the original site of vaccination. It may occur to the right or the left of the original sore (Fig. 1), or, indeed, on any other portion of the body. In two instances "typical vaccinia was implanted upon a post-auricular eczema and ran the same course as upon the arm" (Allen). This condition is usually accidental and is caused by the child scratching and conveying the virus to some other slightly-denuded portion.

A case of more than passing interest occurred in the ophthalmological service of Dr. Wm. Cowen. The history in brief is that on May 15, 1899, a child was vaccinated at the Dispensary with a successful result; two weeks later the mother noticed a "pimple" on her right lower lid, at the outer margin of the punctum lachrymale; this grew larger, became a "blister," as she said, then "yellow matter," in short, went through all the stages of papulation, vesiculation and pustulation with the formation of a small scar. Dr. Cowen states that when he first saw the patient the lid was edematous, infiltrated and the eye closed, with enlargement of the pre-auricular gland on that side, although the cornea remained intact throughout. When last seen the patient suffered from mild epiphora as a result of partial closure of the punctum. In explanation of this circumstance, there is every probability that the child while nursing carried its fingers charged with the virus to the mother's lid and thus produced the local sore; or the mother may herself have been the carrier of the infection.

The most common generalized eruption was found to be urticaria in its varying types, occurring from the fifth to the fifteenth day, usually on the ninth or tenth. Some instances showed typical wheals of various sizes, others papules, others papulo-vesicles and others bullæ; in a few instances the smaller wheals had in their center a minute vesicle, rendering differentiation from varicella necessary. This urticaria, while often generalized, was at times localized to the vaccinated arm, or at most a few lesions were scattered over the body. It was not uncommon to find the lesions of urticaria combined with contagious impetigo, the latter being due to secondary infection from scratching. Urticarial lesions occasionally occurred as early as three or four days after inoculation; these are instances of true reflex action similar to that produced by shellfish, strawberries, etc.

FIG. 2.



Bullous or Pemphigoid Type.

The morbilliform type, though not very frequent, occurred in several instances, usually ten to eleven days after vaccination. In these cases there were no prodromal symptoms, no coryza or

conjunctivitis, and the temperature never rose above 100.5° F. *per rectum*. The eruption, while fairly typical of measles in appearance and distribution, was differentiated by the history of sudden onset, the early disappearance of the rash without desquamation (within forty-eight hours) and the absence of Koplik's phenomenon.

In three instances, I observed the appearance nine days after vaccination of an eruption similar to German measles or rötheln, but differentiation from rubella was not so easy. In fact, in the absence of any particular diagnostic sign, I was unable to satisfy myself as to the positive diagnosis, since in both types the onset is sudden, the fever slight, and the eruption disappears in forty-eight hours. If other children in the same family have been or become affected a diagnosis of rubella should of course be made.

The vesicular eruptions proved interesting as well as puzzling. They occurred, as a rule, eleven to fifteen days after vaccination. In some instances the trunk was mainly involved; in others the extremities seemed to bear the brunt of the outbreak; a very small number presented a vesiculation limited to the vaccinated arm. A few instances showed generalized vesiculation even to involvement of the oral mucous membrane. Some of the cases simulated chicken-pox so closely that Dr. Allen classified them as of the "varicella type." When examined carefully, however, it will be seen that these cases never have *all* the characteristics of varicella; the lesions do not come out in stages, they lack grouping in twos, threes, or fours, the mucous membrane of the mouth is usually not involved, and the vesicular contents are darker and not lactescent.

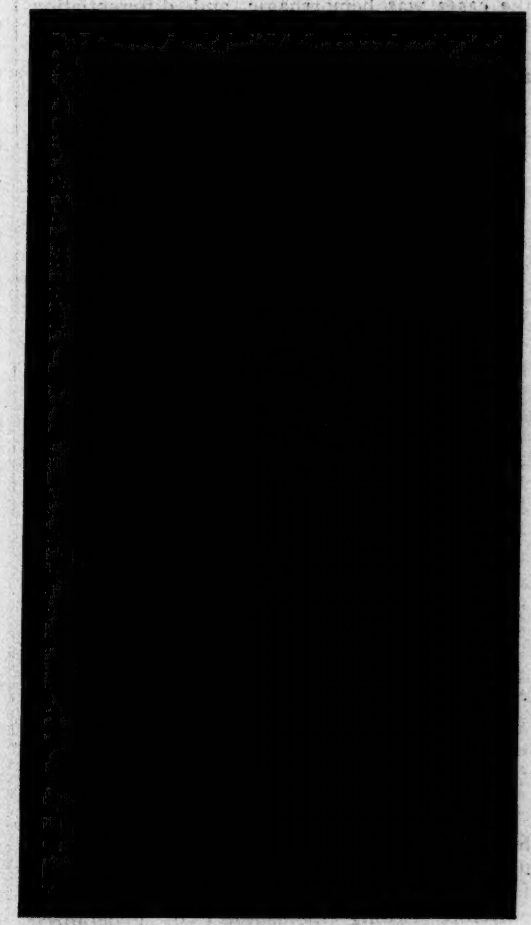
On the other hand, the fact must not be overlooked that varicella might occur during the course of vaccination and confuse the diagnosis. Vaccination, we know, while protecting altogether or in part against variola, is no safeguard against varicella, thus demonstrating the distinctiveness of the two diseases. Varicella may appear twelve to fourteen days after vaccination, just at the time when lesions simulating it are wont to occur. If attention is given to the grouping, the crops, the various stages of the lesions, the character of the vesicular contents, and the oral mucous membrane, no great difficulty will be experienced in reaching a proper diagnosis. In two extremely doubtful instances, I was able to demonstrate, two days later, the occurrence of chicken-pox in other members of the family.

Generalized scarlatiniform eruptions were rather infrequent, only four instances being recorded. One of the children seemed very ill, with a temperature of 102.5° F. and an eruption involving the face and extending over the lips into the mouth; in twenty-four hours it had entirely disappeared from the body and, in greater part, from the face. In a second case, the eruption was, to use the words of Dr. Allen, "more scarlet than in scarlet fever."

This form of generalized eruption appears about ten to eleven days after vaccination, is unaccompanied by vomiting or pharyngeal inflammation, and subsides in from twenty-four to forty-eight hours without desquamation. Simple erythema or roseola vaccination rash was observed a number of times; it is a mild form of congestion, disappearing in twenty-four hours.

Pustule-bullous lesions were several times entered on the records. One patient had a temperature of 103.5° F.; another showed large bullæ on the soles of the feet, on the hands, and scattered vesico-pustules on the body. A thin case of bullous or pemphigoid vaccinia presented bullæ over the entire body, many of them being infected and impetigenous. Three distinct bullæ existed over the posterior surface of the left leg (Fig. 2); some had tense, others flabby walls, the contents in all being alkaline in reaction. The bullous form of vaccinia might be confounded

FIG. 3.



Erythema Multiforme (Exudativum Annulare).

with syphilis, from which it must be differentiated to a great extent by the history. As Allen says, "If it comes between the ninth and fifteenth day—usually tenth or twelfth—we naturally may exclude inoculation syphilis, which would produce such manifestations only after a lapse of almost as many weeks." The bullous syphilide is a disease of very early life (first six weeks) and is usually fatal.

Other cases suggested echthyma with greenish blebs on an erythematous base. Erythema multiforme was recorded a number of times; one of the cases was hemorrhagic and differentiation from purpura was only rendered possible by the existence of other multiform lesions which faded away on pressure. A second instance presented

FIG. 4.

Vesiculo-bullous Urticaria.

ten days after vaccination a typical erythema exudativum annulare, mainly on the anterior surface of the chest, abdomen and back (Fig. 3).

Before closing the subject of generalized vaccination rashes, mention must be made of conjoined eruptions; we have seen in the same patient, erythema and papulo-vesicles, scarlatiniform erythema and minute vesicles, urticaria and erythema multiforme. Finally, as sequelæ of vaccination we have enumerated axillary ademitis, 5; axillary abscess, 6; erysipelas, 13; pseudo-erysipelas (Allen), 7; exuberant granulations, 4; slough, 7; deep ulceration, 67; hemorrhagic pock (traumatism), 3; hypertrophic scar, 2; marked induration, 4; raspberry growth (dry exuberance granulation tissue), 2.

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CHRONIC ENTERITIS AND TUBERCULOUS ENTERITIS TREATED WITH HYPODERMIC INJECTIONS OF ARSENIC.[1]

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THE essential symptom of chronic enteritis is found in the alvine evacuations, their composition, frequency and time of occurrence. Rare cases are encountered in which the bowels are normal or constipated, yet sooner or later they offer the usual phenomenon.

The composition presents the characters of fluid, semisolid, rarely formed, grey, white or brown-yellow in color; odorless or putrid, containing intestinal mucus, fragments of undigested food, and often show by evolution of gases, processes of fermentation or putrifaction; not often is blood or blood-clot discovered. The frequency is three or more movements daily. The time of occurrence is characteristic: (1) From midnight until morning, awakening the patient from his sleep or compelling him to seek the toilet-room on arising from his bed. This performance we may call the early morning movement of the bowels. It is so peculiar that it alone may sometimes be sufficient for a diagnosis. (2) A strong and irresistible desire for stool immediately after meals, or it may force the patient to leave the table before his repast is finished; or again, in the severest type, the desire returns whenever food or drink of any description is swallowed. The diarrhea may be preceded or associated with pain in the intestines; oftener, however, it is painless. The amount of the dejections may be copious, rarely scant, usually moderate. Of the constitutional symptoms, the result of chronic enteritis, the most constant and striking are: Anemia, which is apparent on inspection, and loss of weight, always considerable and ranging from ten to one hundred pounds.

The pathologic anatomy recognizes: (1) A hyperplastic inflammation of the mucous membrane. (2) An atrophic form. (3) Ulceration of the mucosa may coexist. To identify these lesions by clinical symptoms is often impossible. Intestinal ulcer may be latent and insidious and an autopsy disclose its presence as the cause of a fatal hemorrhage or peritonitis.

The most important complication and sequel of chronic intestinal catarrh is tuberculosis. Chronic enteritis is often found in those of consumptive habit and in the stage of pretuberculous anemia. The emaciation in these cases is always marked even when the chronic diarrhea has not long existed or has not been severe. An historical example of tuberculosis following chronic enteritis is illustrated in the case of General Andrew Jackson, the hero of New Orleans.[2] In children, the victims of this disease of long standing, there occurs an arrest of growth and

[1] Read before the Therapeutic Society of the District of Columbia, March 10, 1900.

[2] *Vide* the biography by James Parton.

development. The figure of these patients is markedly stunted. The evolution of puberty may be retarded. A youth of eighteen or twenty years may have the general appearance of a boy of twelve or fourteen. The voice may retain its childish intonation and the growth of hair on the face not appear or be but scant. Treatment, that cures the chronic enteritis in time, causes rapid increase in weight, in growth and in the general physical attributes of manhood. Tuberculous enteritis is recognized by the evidences of tuberculous deposits in other parts of the body, particularly in the lungs; by the daily presence of fever; by the enormous wasting of the body, and by the behavior of the diarrheal movement absolutely uncontrolled.

The prognosis of chronic enteritis, without treatment, is unfavorable. There is no tendency to spontaneous cure. Its duration may extend over half a life-time. One still encounters the disease in survivors of the War of the Rebellion, who contracted it as "swamp" or "camp diarrhea." With the destruction of the glandular structures of the intestinal mucous membrane, the general symptoms become graver and favor a sudden and malignant exacerbation of the diarrhea, resisting all efforts at control, or, from age and profound exhaustion, the patient finally succumbs. Of course, all along, he likewise falls an easy victim to intercurrent diseases. A prognosis, when reinforced with judicious treatment, is favorable and is not influenced by long duration or extreme debility. Satisfactory results can be accomplished in the aged and recovery may yet ensue in a case apparently hopeless. Nature alone is helpless, art powerful.

In the clinical testing of dog and of ox serums, containing arsenic in cases of pulmonary consumption by my friend Dr. Arthur J. Hall and myself, it was observed that the diarrhea was checked in both the chronic and tuberculous varieties. Other marked and permanent effects on the disease or any of its other symptoms, particularly on the fever, we failed to recognize and the experiments were consequently abandoned. We found that serum containing one sixty-fourth of a grain of sodium arsenite or one one-hundredth of a grain of arsenious acid to thirty minims was not stabile in hot weather. When fresh and sterile it gave no reaction and was well borne, excepting the inconvenience of a painful nodule at the site of puncture, which disappeared in a few days. Frequently from want of permanency in the preparation constitutional disturbance resulted. In a few hours, a chill, a sleepless night, and fever for a day or two. A phlegmon-like induration of long duration was also apt to develop, disappearing finally or forming an abscess.

In place of serum as a menstruum for arsenic the writer has since chosen normal salt solution (0.5 per cent. sodium chloride). This can be declared practically painless and patients readily submit to its use. The dose of arsenic, of which sodium arsenite is the best and most eligible combination for this purpose, is from one-sixty-fourth to one-thirty-second of a grain of the salt in sixty minims of the fluid. A larger amount has not been found necessary.

In the administration of arsenic subcutaneously for the cure of chronic enteritis, the injections may be practised once a week, in mild and convalescent cases; bi-weekly in the average, and every day or two in the severe and bedridden. Circumstance, time and convenience may all be considered. It is a treatment both simple and economic. Other medication is not necessary, unless it be an occasional prescription for the relief of some special symptom incident to a particular case. The treatment should be continued for from seven to fourteen days, and if decided results are not obtained at the end of that time it should be abandoned as futile. In the majority of cases, however, success will speedily appear and the injections are discontinued at the end of thirty to sixty days from their beginning. The most convenient points for injecting are the supra-, inter- and infrascapular regions, and especially the lateral gluteal region about the great trochanter of the femur.

As for food, its abuses and misuses play the most important rôle in the causation and prolongation of the disease, and as a rigid diet is a *sine quâ non* for success, it is proper to restrict the patient while under this treatment. We must allow the diseased intestine repose while the processes of repair and healing proceed. However, it will not be found necessary, except in severe forms, to reduce the variety of food stuffs to a minimum, as is usually recommended and practised, but it can be made much more liberal as in the following scheme: Allow milk, cocoa, chocolate, tea and coffee, white bread, cream or soda crackers, butter, eggs, meats of all sort excepting pork and its preparations, fish, game, fowl, cooked vegetables and carbohydrates, Irish potatoes, rice, farina, sago, arrowroot, tapioca, Lima beans, lettuce, cauliflower, spinach, beets and turnips.

To be interdicted in a general way are all articles of dessert excepting olives, almonds and cheese; particularly excluding fruit and preserves, but allowing watermelon. A favorable result is in all instances most certain to be attained by an exclusive diet of milk and cocoa for a week or more. At times it may be necessary to have some substitute even for milk when this is found to disagree from individual peculiarity.

It is not claimed that this is the best treatment for chronic enteritis. The therapeutic actions of arsenic are often brilliant, but, with the exception of its effect on chorea, are at times variable and unsuccessful. Its usefulness in chronic enteritis is not always certain. In the colliquative diarrhea of amyloid degeneration, the writer has not had opportunity to try the remedy; in a case of chronic diarrhea due to chronic myocarditis as primary cause he met with failure. He has had some non-successes with patients

treated by hypodermic injection. Occasionally the lack of confidence or prejudice of the sick may have been underlying causes. Considering, however, his experience as a whole the conclusions seem to him substantiated that:

1. The arsenical injection is safe, painless and effective.

2. The dose is very small. From one-sixty-fourth to one-thirty-second of a grain of sodium arsenite is sufficient.

3. One, two or three injections per week will cure the milder cases.

4. Other internal medication is avoided and the patient has no daily routine of dosing.

5. Greater latitude in diet can be allowed without detriment.

SELECTED CASES.

Tubercular Enteritis.—A carpenter, twenty-six years of age, was seized with acute disease, apparently a pleuropneumonia. He did not regain his health. Six months later on examination he was found to be in the fourth stage of pulmonary consumption. The upper half of the right lung was one enormous cavity. His expectoration was purulent and very profuse. He had a high and continued fever. His body was greatly emaciated. There was swelling of the feet and lower half of the legs. Cough, speaking, or the least exertion caused dyspnea. For two months he had suffered from a diarrhea which no treatment could check. The movements of the bowels were very frequent. His inability to take food was hastening the end through starvation. A diet of meats, milk and cocoa was instituted and he was given a daily injection of one-sixty-fourth of a grain of sodium arsenite in ox serum. After the fourth injection the diarrhea ceased. For a week there was improvement in strength and he was able to sleep at night with some comfort. The cough diminished; the expectoration decreased to a marked degree. The injections were continued but at intervals of two and three days. The bowels remained normal or constipated. Tuberculous ulceration of the mucous membrane of the mouth and of the tongue caused much suffering. Death occurred in about four weeks from exhaustion.

Tubercular Bronchitis; Arthritis Deformans; Chronic Enteritis with Ulceration.—A woman of sixty-five years who had a chronic cough, was seized with a mild acute attack of arthritis deformans of both knee-joints. At the same time a chronic diarrhea began. The enteritis was treated by dieting and by drugs in great variety, without any beneficial result. A low daily fever was observed, the temperature ranging from 98.8° to 101° F. There was not any improvement in her condition for five months. The fever did not vary during this time. Repeated examinations of the sputum always revealed the presence of tubercle bacilli. The bowels moved more frequently after midnight and in the morning, averaging six daily evacuations. They were offensive, thin and brown. Mucus and blood were noticed either in admixture or in small clots. At the end of the time just stated her body was wasted to a very great degree. The skin was of a brown-yellow color, very dry and shriveled. She was given seven consecutive daily injections of arsenical serum. This treatment was then suspended because of the development of a large painful induration resulting from one of the punctures. An erythema appeared on the trunk. The fever disappeared and was supplanted by a subnormal temperature which continued for weeks. The diarrhea was arrested with the use of the seventh injection. She made a rapid recovery and declared that the very first hypodermic injection had helped her. She was unable, however, for some time to extend her lower limbs on account of fibrous ankylosis of the knee-joints, due partly to the arthritis and partly to the helpless state in which she had lain for months.

Chronic Enteritis; Tubercular Bronchitis.—A clerk, about sixty years of age, had a chronic enteritis for three months which had not been relieved by treatment. The patient had a slight cough and some little expectoration. Four weeks later he had grown generally worse and his weakness and loss of flesh pronounced. As no progress had been made in the case he was induced to remain in bed and follow, with system and regularity, certain methods of dieting and the use of drugs for five weeks. His condition had then changed for the worse. There was a daily low fever and the diarrhea remained unchecked. The movements were both frequent and copious. They were offensive, mushy in consistency and fermenting. Tubercle bacilli were invariably found in the sputum. The patient was extremely dissatisfied and irritable. He seemed to derive a gloomy solace from the frequent use of his clinical thermometer. As a last resort the arsenical injections were recommended and used but much against the patient's opinion. Improvement in the diarrhea followed the first administration. It was repeated every second day for three weeks. The fever began to vary from 98.8° to 99° F. in the afternoon and evening and a subnormal temperature prevailed in the morning hours. Convalescence was slow and interrupted by a short relapse in one instance of the diarrhea and another time by an attack of influenza. The patient was restored to health and able to resume his clerical work after a sickness of about eight months.

Chronic Enteritis.—A printer, forty-six years of age. Had had chronic diarrhea since March, 1899. After eating or drinking he would be seized with colicky pains which were speedily followed by a diarrheic movement. He usually had from three to six evacuations daily. After taking opiates or intestinal astringent he would be constipated for one or two days. This caused him further distress in the "lower bowel," and induced him to use a soap-suds enema, after which the diarrhea would return and this was his round of existence. There was much loss of

weight and strength. Just before beginning the treatment his malady had become suddenly intensified from taking cold so that he had fifteen stools in thirty-six hours.

In the following summary of the course and result the time stated indicates when the bowels moved:

January 14, 1900; sodium arsenite, grain 1-32, hypodermically; January 15th, 1.45 P. M., pain before—light—natural; 8 P. M., pain before movement, then took opiate; January 16th, no movement, arsenical injection; January 17th, 7 A. M., soap-suds enema; January 18th, 7 A. M., arsenical injection; January 19th, no movement; January 20th, 5 A. M., arsenical injection; 7.30 A. M.; January 21st, 7 A. M.; January 21st, 9 A. M.; January 22d, no movement; January 23d, 7.30 A. M., enema, arsenical injection; January 24th, 4 A. M., 7. A. M., 9 A. M.; January 25th, no movement; January 26th, no movement; January 27th, 7 A. M., used enema; January 28th, 11 A. M., used enema; January 29th, no movement, arsenical injection; January 30th, 7 A. M., an enema of one pint of olive oil; January 31st, 6 A. M.; February 1st, 6 A. M.; February 2d, 8.30 A. M., arsenical injection; February 3d, 9.30 A. M.; February 4th, 9 A. M.; February 5th, 8 A. M.; February 6th, 9 A. M.; February 7th, 9 A. M., arsenical injection; February 8th, 8.30 A. M.; February 9th, 7 A. M.; February 10th, 7 A. M.; February 11th, 9 A. M.; February 12th, 5.30 A. M.; February 13th, 9 A. M.; February 14th, 9.30 A. M., arsenical injection.

The patient remained at his daily work. The diet was liberal, dessert only being excluded. In thirty-two days he was given nine arsenical injections. He received no other medicinal treatment and had gained eight pounds in weight.

Chronic Enteritis; Pulmonary Tuberculosis.—P.—, twenty-eight years old, has one child two years old. Sickness began June, 1899, with a chronic cough, continued fever, considerable wasting. On two different occasions attempted to take creosote with the result, as she declared, of producing the chronic diarrhea from which she has since suffered. She has from two to four thin movements daily; the first invariably before breakfast, the others after her other meals. These are preceded by griping pains. Tubercle bacilli in sputum.

The following daily record of the movements of the bowels covers a space of two months. During this time the feces were normal in composition. The patient considered herself well at the end of the second week. In this case the diet was not restricted:

December 25, 1899, 8.45 A. M., sodium arsenite, gr. 1-64; December 26th, 9.15 A. M.; 12.15 P. M.; December 27th, 9.20 A. M., sodium arsenite, gr. 1-32; 10.37 A. M.; December 28th, 8.45 A. M.; December 29th, 9.50 A. M., 11.20 A. M.; December 30th, 10 A. M., 12.30 P. M.; December 31st, 9.20 A. M.

January 1, 1900, 9.15 A. M., sodium arsenite, gr. 1-32; January 2d, 9.35 A.M., 9.45 P.M.; January 3d, 9.45 A. M.; January 4th, 8 A. M., sodium arsenite, gr. 1-32; January 5th, 9.20 A. M., 12 M.; January 6th, 9.10 A. M., 12 M., 2 P. M.; January 7th, 10.10 A. M.; January 8th, 9.30 A. M., 11.55 A. M.; January 9th, 9 A. M., 11 A. M., 12.30 P. M., 8.10 P. M.; January 10th, 9.30 A. M., arsenite of sodium, gr. 1-32; January 11th, 11.45 A. M.; January 12th, 8 A. M., 10.30 A. M.; January 13th, 10.10 A. M.; January 14th, 9.40 A. M.; January 15th, 8.45 A. M., sodium arsenite, gr. 1-32; 11.50 A. M., 9.15 P. M.; January 16th, 9.20 A. M.; January 17th, 10.30 A. M.; January 18th, 11.40 A. M.; January 19th, 10.40 P. M., sodium arsenote, gr. 1-32; January 20th, 11.45 A. M.; January 21st, 6.35 P. M.; January 22d, 8 A. M., 9 P. M.; January 23d, 9.35 A. M., 10 P. M.; January 24th, 12.25 P. M., sodium arsenite, gr. 1-32; January 25th, 10.35 A. M.; January 26th, 11.25 A. M.; January 27th, 8.30 P. M.; January 28th, 12 M.; January 29th, 0 0.; January 30th, 7.40 A. M., 12.10 A. M., 2.50 P. M.; January 31st, 9.20 A. M., sodium arsenite, gr. 1-32; 9.45 A. M., sodium arsenite, gr. 1-32; February 1st, 9.10 A. M.; February 2d, 11.05 A. M.; February 3d, 0 0.; February 4th, 9.45 A. M., sodium arsenite, gr. 1-32; February 5th, 7.20 A. M., 10.20 A. M.; February 6th, 9.30 A. M.; February 7th, 7.30 A. M., sodium arsenite, gr. 1-32, 10.20 A. M.; February 8th, 8.50 A. M., 9.30 A. M., 1.55 P. M.; February 9th, 9.30 A. M., sodium arsenite, gr. 1-32; February 10th, 9.30 A. M.; February 11th, 0 0; February 12th, 6 P. M., sodium arsenite, gr. 1-32; February 13th, 7.20 A. M., 10.20 A. M.; February 14th, 3 P. M., 8 P. M.; February 15th, 8 A. M., 10.10 A. M.; February 16th, 10.20 A. M.; February 17th, 9 A. M.; February 18th, 0 0.; February 19th, 1.10 P. M.; February 20th, 1.05 P. M.; February 21st, 10.10 P. M.; February 22d, 9.40 A. M., sodium arsenite, gr. 1-32, 10.35 A. M.; February 23d, 6.10 P. M.; February 24th, 9 A.M.; February 25th, 0 0.; February 26th, 0 0.; sodium arsenite, gr. 1-32. Thus in this case sixteen arsenical injections were given in sixty-four days. The evacuations after the third hypodermic regained their normal consistency and color.

Tuberculosis Dorsal Vertebrae; Chronic Enteritis.—Married woman of thirty-five years. Has had Pott's disease of the spine for eight years; no abscesses; chronic enteritis for a year; two to three thin fetid movements of the bowels daily; they were of the early morning variety, and after eating. She was much emaciated, has been at times confined to her bed for months; has a chronic cough. Received fifteen arsenical injections at biweekly and weekly intervals; diet unrestricted. Diarrhea ceased after second hypodermic. General condition showed steady and great improvement; was enabled to pass her time in light home occupations. No relapse at the end of eight months.

Nervous Diarrhea.—A woman of thirty years, of marked neurotic temperament; mother of

three children. A year before her present sickness she suffered for three weeks from fancied epidemic cerebrospinal meningitis, one of her acquaintance having died of this disease. Has looseness of the bowels at each menstrual period. Her present attack of three weeks' duration. The evacuations were three or more daily and mostly in the early morning. There was much intestinal discomfort from the presence of gases. The movements were watery, odorless and brown in color. There was a frequent desire to stool which she fancied she was able to suppress. She had no wish for food. Complained much of throbbing of the arteries and of a heavy weight on the crown of her head. The heart beats were normal in frequency. She was very depressed and very apprehensive of some greater malady. She gave up all household cares and occupations. Was afraid to be alone and yet avoided her relatives and friends. Her nights were tormenting by unpleasant dreams and she awoke in the morning exhausted. She felt "miserable."

Notwithstanding the patient's theory that the diarrhea was the result of "nervousness," she was given seven injections of sodium arsenite, grain 1-32, in a week and a diet of milk, cocoa and beefsteak. Later on oysters, chicken, sweetbread, rice and potato were added. The immediate effect of the arsenic was to make her feel invigorated; after the third day of treatment the bowels moved only in the afternoon hours; after the fifth there was but one normal morning movement. No other medicines were administered except a hypnotic to produce sound sleep at night.

Chronic Enteritis.—A grocer, twenty years of age; the malady had existed two and a half years before receiving the treatment herein described. When his disease was quiescent, he had two or three movements a day; one in the early morning; the others during or immediately after his meals. They were thin and copious. Every few months the disturbances became intensified, six or more alvine discharges occurring each day. He grew weak, lost weight, strength and spirits and was compelled at such times to leave his business. At his first visit his malady had become thus aggravated. His feeling of debility had made him alarmed as to his condition. Notwithstanding this, in the first half of the treatment, his diet was not restricted. As the progress of the case was not satisfactory the patient was limited in his food, as it was obvious that that of which he had been allowed to partake was too irritating for a rapid curative result. It is to be noted that the young man's occupation required him to rise early so that towards the end of the subjoined record the daily single movement was normal, occurring after breakfast. The hypodermic injection used consisted of sodium arsenite, grain 1-32. The time records indicate the movement of the bowels. First day, weight 141 pounds, arsenic injection, 6.15 A. M., 6.45 A. M., 7.45 A. M., 12.35 P. M., 3 P. M., 4 P. M., 5.30 P. M., 6.40 P. M., 7.20 P. M., 8.30 P. M.; second day, 6.15 A. M., arsenic injection, 6.35 A. M., 6.50 A. M., 7.25 A. M., 8 A. M., 8.30 A. M., 9 A. M., 9.45 A. M., 10.40 A. M., 11.15 A. M., 12.10 P. M.; third day, 5 A. M., arsenic injection, 5.30 A. M., 6 A. M., 7.10 A. M., 9 A. M., 11.30 A. M., 3 P. M., 6.45 P. M.; fourth day, 6.30 P. M., 8.10 P. M., 4.30 A. M., 8.45 A. M.; fifth day, 5.30 A. M., arsenic injection, 8.40 A. M., 6 P. M., 7.15 P. M.; sixth day, 2.10 P. M., 9 P. M.; seventh day, 7.25 A. M., 9.10 A. M., 6.45 P. M., 10.55 P. M.; eighth day, 7 A. M., 2.10 P. M., 6.35 P. M.; ninth day, weight 142.5 pounds, arsenic injection, 12.50 P. M., 5 P. M.; tenth day, 6.30 A. M., 7.45 A. M., 10.05 A. M., 2 P. M., 5.30 P. M.; eleventh day, 6.55 A. M., 8.40 A. M., 12.20 P. M., 1.35 P. M., 5.40 P. M., 7.10 P. M.; twelfth day, 6.30 A. M., 9 A. M., 12.45 P. M., 7.05 P. M.; thirteenth day, 6.05 A. M., 6.35 A. M., 10.10 A. M., 4.40 P. M., 8.45 P. M., 10.15 P. M.; fourteenth day, 7.30 A. M., 9 A. M., 7 P. M.; fifteenth day, 6.45 A. M., arsenic injection, 9.05 A. M., 11.55 A. M., 6.25 P. M. Diet: Milk, cocoa, beefsteak, lamb and mutton chops, chicken, eggs, shad, mackerel, Irish potatoes, rice, spinach, white bread, cream crackers, butter. Sixteenth day, 9.45 A. M., 2.30 P. M.; seventeenth day, weight 145 pounds, arsenic injection, 0 o.; eighteenth day, 7.05 A. M.; nineteenth day, 7.05 A. M.; twentieth day, 9.45 A. M.; twenty-first day, weight 146 pounds, arsenic injection, 6.30 A. M., 9.05 A. M.; twenty-second day, 5.30 P. M.; twenty-third day, 10.40 A. M.; twenty-fourth day, 6.45 A. M.; twenty-fifth day, 7.30 A. M.

A cure in twenty-five days; patient arose early, was busy all day; gain in weight five pounds. Eight arsenical injections given.

ANASTOMOSIS OF URETERS WITH INTESTINE.[1]

By REUBEN PETERSON, M.D.,
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THE experimental work forming the basis of this article was undertaken with the view of studying the changes resulting from anastomosing the ureter with the intestinal tract and of determining whether the procedure could with safety be employed in human beings. The important and far-reaching changes in the kidneys and ureters resulting from a bacterial invasion from the septic cavity into which the ureteral orifices open have not been satisfactory studied. The question will always arise whether infection of the kidney will invariably follow the ureteral union with the intestine. If this be true, can perfection of operative technic reduce this infection to a minimum, so that the kidney can recover and remain a useful organ? These questions must be answered before the surgeon will subject his patient to an operation from which, once performed, there is no retreat.

The first portion of the article has been devoted to an exhaustive review of the literature of the subject. The second part has been given

[1] Author's Abstract.

over to the description of the author's own experiment from which, together with the work of others, general conclusions have been drawn.

Perhaps the most striking fact revealed by a study of the experimental work which has been done in uretero-intestinal anastomosis is the exceptional high mortality accompanying the operation, whether one or both ureters are implanted in the bowel. Out of 60 dogs operated on by various experimenters in which one ureter was implanted into the intestine, there were 35 recoveries or 61 per cent. mortality, while out of 65 dogs undergoing bilateral ureteral anastomosis only 8 survived, giving a mortality of 87 per cent. The causes of death were various, but in a general way it may be said that the majority resulted from peritonitis through the giving way of the ureterorectal stitches and the subsequent escape of urine into the peritoneal cavity, or to an overwhelming infection of the kidney ascribed to nephritis or uremia.

A careful review of the different operative procedures shows that the primary mortality was large by all methods. The method which calls for the least amount of suturing of the ureter itself will be found to give the best results. The post-mortem on the animals surviving the operation for any length of time in nearly all instances showed unmistakable evidence of stenosis of the ureteral orifice, hydro-ureter, hydronephrosis and pyelonephritis. In no case was it demonstrated beyond dispute that the kidney was normal after the corresponding ureter has been implanted into the rectum.

A critical survey of 28 uretero-intestinal implantations in man shows the primary mortality, 32 per cent., to be exceedingly high. If to this be added the uncertainty as to subsequent renal infection in the cases surviving the operation, it must be admitted that uretero-intestinal anastomosis is not an operation of choice. The subsequent history of the successful cases places the operation in a still more unfavorable light. Of the 19 recovering, 2 died later of pyelonephritis and 2 of uremia after implantation of the second ureter. The post-mortem in one of these revealed a fibrous condition of the kidney, the ureter of which had been implanted fourteen months before. An autopsy was not secured in the second case, but, from the similarity of symptoms, it is fair to assume that the pathologic conditions were the same as in the first case. Of the 4 surviving cases with implantation of one ureter, 1 is living and well at the end of eight years, but it is not stated that the discharges from the rectum contain urine. Renal infection was responsible for death in each of the 9 fatal cases.

In 1894 Maydl reported 2 cases of exstrophy of the bladder operated on by an original method, consisting of the implantation of the vesical trigonum with its ureteral orifices into the sigmoid flexure. The predominant idea of this operation was the preservation intact of the ureteral orifices and their utilization as a means of preventing an ascending renal infection.

In order to ascertain whether this theory is borne out by clinical fact, the author has collected and tabulated 36 cases of operations performed according to this technic. Of the 36 cases, 5 died as a result of the operation and 2 died four and fifteen months later, respectively, of pyelitis. This operative mortality is surprisingly low for such a difficult major operation. Thirty-three of the operations were done for the relief of exstrophy of the bladder, there being 26 males and 5 females. The sphincteric control over the urine is reported as remarkably good, it being noted as poor in only one case. There were six fistulæ following the operation, all noted as subsequently closing.

The primary and secondary results of uretero-trigono-intestinal anastomosis are so much superior to those of ureteral implantation without the preservation of the vesical ureteral orifices as to always demand the performance of the first operation in preference to the latter.

A summary of 9 cases of uretero-intestinal anastomosis through the formation of rectal fistulæ shows that 6 of these were for exstrophy of the bladder with a mortality of 67 per cent.; 2 vesical vaginal fistulæ were both cured and there were 2 cases of vesicovaginal rectal fistulæ.

Frank's experiments have shown that in dogs vesical rectal anastomosis is a comparatively safe procedure; that the bladder remains free of feces and that infection of the kidneys does not result in some of the cases operated upon.

The author's experimental work covered a period of eighteen months. The bacteriologic and microscopic work was conducted by Dr. F. Robert Zeit of the Post-Graduate Medical School. Dogs were used for all experiments and the most aseptic technic was employed. Three series of experiments were conducted as follows:

Series I.—Bilateral uretero-intestinal anastomosis; both ureters were implanted simultaneously in the rectum in 28 dogs with 5 recoveries and 23 deaths. Various forms of operation were employed. The most common being an incision made in the bowel-wall through the serous and muscular coats, the ureters being implanted in the rectum through small incisions made in the mucosa; they were held in place by sutures passing through the mucosa and their outer coats of peritoneal covering. The closure of the incision by Lembert's sutures completed the operation. In most of the cases death ensued from general peritonitis accompanied by extravasation of urine into the peritoneal cavity. This escape of urine in most instances arose from the slough at the site of the anastomosis. The ureters were, as a rule, dilated although the ureteral orifices were patent.

In the 5 dogs which recovered, the operative results may be termed fairly good. In only 1 case was a single ureter thought not to be patent. In four of the cases, however, the ureters are noted as being dilated. In 1 there was pyo-

ureter, in another hydro-ureter. Three of the cases died of pyemia, secondary infection and endocarditis, forty, eighty-four and thirty-nine days respectively after operation. In one dog living thirteen months after the operation, there had been a recovery from the infection with resulting contracted kidney.

Series II.—Lateral uretero-intestinal anastomosis; 16 dogs operated upon with 3 recoveries; 12 died of general peritonitis due to leakage through stitch-holes. The object of these operations was to unite the ureter to the bowel by a lateral anastomosis so that dilatation of the ureter and ascending infection could be avoided. In 2 of the dogs which recovered, through faulty technic the intestinal mucous membrane closed and stenosis resulted. In the other dog pyelonephritis resulted in a short time, although there was no obstruction to the flow of urine.

Series III.—Ureterotrigono-intestinal anastomosis; 21 dogs operated upon; 12 died of peritonitis through the sloughing of flap; 4 died of peritonitis from other causes. The first 12 cases died from ligating the vesical arteries supplying the flap. In 9 experiments where these arteries were preserved there were 5 recoveries from the operation.

The author's modification of Maydl's technic consists briefly in the uniting by means of a continuous suture of a rectangular bladder-flap containing ureteral orifices upon the bowel after the latter has been opened. A review of the 5 experiments in which the dogs recovered shows that in 1 the ureter was occluded with the formation of an atrophic kidney. Of the 4 remaining cases 1 in which the trigonum was implanted had a non-infected kidney and pyelonephritis on the other side where ureterorectal anastomosis had been made. One died in 44 days from active pyelonephritis where the mucosa over the ureteral orifice had been accidentally removed; 1 lived two months without signs of infection of the kidneys; 1 had pyelonephritis after eight days where the mucosa was removed from the natural orifices and no sign of kidney infection in the other kidney whose orifice was implanted intact.

The general conclusions are as follows:

1. The primary mortality of uretero-intestinal anastomosis both in experimental work on animals and in man is exceedingly high.

2. The best technic is that requiring the least amount of suturing of the ureters themselves.

3. All efforts to prevent ascending renal infection in animals or in man where the ureter has been implanted without its vesical orifice have proved futile.

4. It is impossible to determine in advance the extent of the infection which will result from uretero-intestinal anastomosis. The patient may die in a few days of a pyemia or in a short time of pyelonephritis or, in rare cases, may recover from the infection with resulting contracted kidneys.

5. Hence the operation is unjustifiable, either for the purpose of making the patient more comfortable, as in exstrophy of the bladder, vesico-vaginal or uretero-vaginal fistula, or for malignant disease of the bladder.

6. The results of uretero-intestinal anastomosis through the formation of vesicorectal fistulæ have not been favorable up to the present time.

7. The success of Frank's experimental work in vesicorectal anastomosis justifies the expectation that the future results of this operation will be more satisfactory.

8. The primary mortality of ureterotrigono-intestinal anastomosis is low for an operation of this magnitude.

9. While it cannot be denied that ascending renal infection may occur after this operation, the infection as a rule is of such a type that the chances of the individual's overcoming it are good.

10. Hence, the operation of implanting the vesical flap with its ureteral orifices into the intestine is a justifiable surgical procedure.

11. There is no valve guarding the vesico-ureteral orifice; nor does the circular muscle-layer of the ureter nor the bladder-muscles themselves act as a sphincter.

12. It has been abundantly demonstrated by experimental and clinical work that the rectum tolerates the presence of urine and acts as a good substitute for the bladder and that good control over the anal sphincter will be maintained.

SCHOOL BREAK-DOWN.[1]

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"A NATIONAL Crime at the Feet of American Parents" is the startling caption under which the American public has most recently had the subject of "School Break-downs" presented to it. The *Ladies' Home Journal* has a wide circulation among intelligent people, and the serious statements of this somewhat sensational article present an indictment against our school system that cannot be dismissed with a jest or answered with a sneer. We must assume that the author is sincere, that his purpose is philanthropic, and that his line of argument is put forward in good faith.

Turning to the article itself, we find that it has a statistical basis. The first statement is that "over sixteen thousand children between the ages of eight and fourteen" have been taken out of the public schools during the last school term in five cities of our country alone "because their nervous systems were wrecked and their minds were incapable of going any fur-

[1] Read before the Section on Diseases of Children of the American Medical Association, Atlantic City, N. J., June 5-8, 1900.

ther in the infernal cramming system which exists to-day in our schools." In regard to these statistics the author of the article has declined to give specific information, because, he says, "he would be sorry to give offence in some quarters by so doing." Writing on this subject, however, the United States Commissioner of Education (than whom one could not quote a better authority) says in a personal letter: "I know of no general statistics of the number of pupils withdrawn from school on account of ill health. It is probable that such a record is kept in some cities, but I should be inclined to doubt its value for your purpose, since it would be generally impossible to understand its significance. Most cities do not consider a pupil as belonging to the schools after three days' absence. A pupil temporarily ill, therefore, would probably be reported "withdrawn on account of illness." Under this "three-days rule" it may not be extravagant to assume that 16,000 pupils out of the army of children in the five principal cities of the Union have been withdrawn from school during a single school term and classed as "school break-downs." We shall make no contention with regard to the number of such withdrawals. If it has reached the aggregate of 16,000 in five of our cities it is a loud call to parents and to teachers to lend themselves to some study of the subject in the hope of a speedy understanding of its real cause. We feel obliged to contend that the assumption that all such cases, or that even any considerable proportion of them, are due to the overstrain of school life is wholly unwarrantable.

Some study of the subject during the past ten years with more or less careful observation of about 100 cases has given force to the conclusions so ably expressed in a recent paper on "Overstudy," by Dr. Leroy M. Yale. With your kind permission we will quote Dr. Yale's conclusions and then point out some of the real causes of apparent school break-downs.

"It cannot have escaped the notice of any of you," says Dr. Yale, "that the question of overstudy practically never comes up in the later years of pupilage; not in the college course and little in the high school. In professional schools the pace is very hard, indeed, but the break-downs are very rarely indeed from study. Of course all this means that the years in which we have overstudy are *precisely the years of development*, especially those covering the second dentition and puberty. The root of the matter would then seem to lie in the *developmental processes* and not in overstudy." And, again, "Study coincides with the physical disorders rather than causes them. It is easy for the physician to order the child out of school, but this may not be necessary, and, in any case, it will do little for the child's improvement unless the bodily ailments are sought out and search made for their real causes. These ailments are many, indeed, but I believe that the commonest are anemia with debility, gastro-intestinal catarrh, and some nervous manifestations, notably chorea and disturbed sleep.

In reflecting upon these astute observations it may be in order to note that while it were wrong to hide all childish disorders behind the somewhat vague diagnosis of "developmental processes," this diagnosis offers a valuable key to the situation and that physicians and parents and teachers can hardly be too much alive to its importance. As applied to our 16,000 break-downs it certainly reduces the school's responsibility to a minimum, however much it emphasizes the difficult duty of parents and physicians. From the school's standpoint certain subordinate causes of these frequent illnesses may very properly be pointed out. They are causes that all are quite ready to recognize and it is needless to deal with them in much detail.

Naturally, the subject of diet claims a first place. The offences are not only against a proper dietary but also against a proper method of eating. Haste in eating has come to be a national characteristic, and its effect upon children is very disastrous. Closely associated with the question of diet is the question of exercise. We are too apt to trust to the spontaneous instincts of the child to regulate this matter. With little exception, parents themselves are offenders against the claims of their own bodies for exercise, and the children become confirmed by a bad example in habits of irregularity.

The same observation is due in some measure in regard to the hours of sleep. The inflexibility of English custom in this matter has often been observed and doubtless has much to do with the final hardihod of the race.

In addition to these three principal contributing causes of break-down, particularly during the period of development, of adolescence, if you please, we need only mention such widely-separated questions as cleanliness, ventilation, clothing and nervous environment, to make the fact impressive that the "school strain" has at least a host of allies. Truly it seems to us at times that there would be small hope for the children if the schools did not offer a somewhat satisfying safety-valve against these multiplied dangers!

It may be of some interest to apply these conclusions for one moment to the consideration of 50 so-called cases of school break-down. Forty-three of these are girls and seven are boys. It is practically impossible to get absolutely reliable information in many such cases, but there seems to be justifiable grounds for saying that every one of these cases is in some way connected with "developmental processes." The principal indication of this is the periodicity of the disorders with the girls and the striking changes in physical appearance with the boys. Four only of the cases are certainly connected with strain of study and in these cases the strain can only be counted as a contributing cause. Twenty of the cases show irregularity of hours,

especially for sleep; seven of them at least have a special hereditary cause and certainly one-half of them are victims of luxurious living. The only conclusion of any apparent value from such a study is that the "developmental process" is the single constant element that is brought to view. We must fall back upon a proper study of adolescence for a solution of what the *Ladies' Home Journal* chracterizes as a "national crime."

The author of the *Home Journal* article has made some apparent references to the famous studies of Dr. Kraepelin and we gladly invite your attention more in detail to his observations and conclusions.

Dr. Kraepelin's studies are characterized by that accuracy and acumen that have very properly made German laboratories so famous. They are outlined in two impressive monographs. One on mental work (Uber geistige Arbeit) and the other on the Hygiene of Work (Hygiene der Arbeit). In treating of the mental endurance of school children it is shown that only a few minutes of sustained attention is possible for a child of two years, and that at twelve years of age 45 minutes of such strain invariably produces fatigue. This of course necessitates rest-pauses and, commenting on these, the learned doctor emphasizes the fact that "bodily strain" (gymnasium and ordinary recess occupations) are not a suitable preparation for mental work. In both of the papers "sleep" is represented as the only sure means of recuperation after mental fatigue and the observations on the necessity of "deep sleep" in school children are very valuable indeed.

In regard to an increase of what may be called "work performance" without squandering the fund of strength, the questions of "momentum" of "work moods" and of the "art of recreation" are given a prominent hearing. The conclusions that the greatest amount of mental work should be done in the shortest possible time, and that "kind Nature has provided for the salvation of growing youth in our schools through the safety valve of *inattention*," especially concern our present discussion.

We may be permitted to observe that the study of Dr. Kraepelin,while confined principally to intellectual activity, recognizes the fact, which in America at least we consider to be demonstrated, that school presents a field for the active exercise of a variety of powers. It is the recognition of the range of activity that is the sufficient answer to most charges of overstrain based on hours of school study. We are composite creatures and the social, the political, the economic, and the instincts that must be trained. The industrial, the social, the political, the economic, and the physical forces must be counted with in school quite as much as the intellectual. Whether recognized or not, the school has always in some imperfect measure stood for that "miniature community" and "embryonic society" now consciously pointed out by Dr. John Dewey as the summit of school attainment. These activities may be masked under an appearance of "inattention," their conscious exercise may make drafts upon the "fund of strength," but it were quite impossible to lull them into absolute inactivity in school or out of it, in the growing child, and we are bound to claim that the nice balance amongst these several powers is better maintained under a system of school government than apart from it.

The strain of examinations, the pressure of unnatural stimuli, thus appear as misplaced emphasis in school life—as violence to a rational school system and not as the fruits of it. A general recognition of these principles and an intelligent study of the subject of adolescence, rather than a revolution in our school practices, present, it seems to us, the practical solution of school "break-down." It were better always to recognize the accelerating forces in a process of evolution than to attempt to tear down a fabric that after all is founded in instinct and cannot be properly characterized as an "infernal cramming process."

THE AUTOMOBILE IN COUNTRY PRACTICE.

By A. D. HARD, M.E., M.D.,
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THE Creator as a mechanical engineer devised and put into practical use in Nature every mechanical principle known to the mind of man except that of the wheel. Man was permitted to invent this, the greatest of all mechanical ideas, and the evolution of the wheel has been a correct index of the progress of civilization in all lands. It forms the foundation of all art which has for its purpose the subjugation of Nature for the material benefit of man, and it is used in the production of nine-tenths of all acquisitions which distinguish the civilized man from the barbarian. Of all its beneficent uses, however, probably the greatest and best is found in its aid to transportation. It practically diminishes distance, makes otherwise impossible progress possible and renders accessible to man the resources of the whole earth. Unlike all other great inventions of the human intellect its date or even the age of its discovery, as well as the name of its inventor, is not recorded on the pages of history.

The wire suspension wheel with its resillient tire and ball-bearings of to-day has opened the door to an age of automobile locomotion, and no user of vehicles is more interested in the perfection of the automobile for practical use than the country physician. But the doctor who is obliged to travel over all kinds of imperfect roads, and in all kinds of severe weather, and at any time of the darkest night, must have a means of certain locomotion which the present stage of the development of the automobile does not offer to him.

The misleading advertisements of manufacturers of automobiles have induced a few coun-

try physicians to pay quite dearly for experimental lessons of experience, and a little exact truth as to the practical merits and shortcomings of the different systems now in use may be of timely value.

Three different ways of securing power to propel horseless carriages have been commercialized. The electric current, hydrocarbon expansion by rapid combustion of gasoline, and steam. Of the three vehicles representing these systems the electric carriage comes nearest meeting the country physician's requirements, but it has defects which so far have proven unsurmountable and place it wholly out of range of practical use. The best electric carriage suitable for a physician's use that can be purchased to-day will not travel twenty miles over average country roads without being recharged at considerable trouble and expense even at convenient places. Another fatal objection is its great weight. The storage battery of the regular runabout weighs six hundred pounds and requires a cumbersome gear which increases the vehicle's weight to twelve hundred pounds. Rubber pneumatic tires on a vehicle of this weight are necessarily short-lived and full of trouble. This great weight also diminishes the effectiveness of the vehicle in climbing hills, going through mud, and in facility of handling both in and out of use. It is an impractical weight compared to the work required of the vehicle.

On paved city streets or very favorable roads, for short and infrequent trips, and where facilities favor recharging of the storage battery or admit of frequent relays, the electric carriage works charmingly. But little care is required to operate it successfully, no element of danger exists as a constant threat to the safety of the rider or the integrity of the machine. It is free from objectionable noises, odors or appearances. It is safe to leave for any length of time and is ready for instant use upon the user's return. It has no delicate mechanisms to get out of order easily, and extremes of weather will not incapacitate it for use. When an electric top-buggy weighing about five hundred pounds can be furnished that will run seventy-five miles without being recharged, will climb twenty-five per cent. grades, and can be economically charged at home from a small plant to be kept for that special purpose, then it will be a practical vehicle for the country physician to use in his practice.

The hydrocarbon system, consisting in getting power from explosions of ignited gas derived from gasoline, when first devised gave promise of great practical use in automobiles, but so far it has been disappointing to a considerable extent. The weight of the gasoline vehicle is about the same as that of the cumbersome electric "runabout," its machinery is complicated and easily deranged, it lacks starting power, it can not climb the hills found on ordinary roads, and extreme cold weather interferes with its use completely. It gives off bad odors while in use, makes an objectionable noise, and cannot be depended upon to work when most needed. If stopped in a soft road or on an ascent it is almost impossible to get the clumsy thing again into action, and it has not even the advantages of a balky team under those conditions, for you cannot lead or coax it. It has some good features not found in the electric carriage. It carries enough gasoline to run it seventy-five miles without refilling and can be quickly and conveniently recharged for use. Its power-supply does not depend upon an independent power-plant. The gasoline carriage may be left safely any length of time and is ready for instant use when wanted, the expense of running is small, and when not in use its stored energy does not depreciate by unavoidable leakage as does that of the electric vehicle. There is but little danger connected with its use and its manipulation is easily learned by the average individual.

The steam-driven carriage is the one which the writer has had the best results with so far in reguiar country practice, but its faults are many and it is not likely to prove satisfactory in use to any one who is not a skilled mechanic and also has a fair idea of steam-engineering. It is as complicated as a railway locomotive and demands constant care of a technical order to get any good results from its use. Its machinery is complicated and delicate and every part is like the links of a chain—if one gives way all are useless.

The boiler is constantly striving to destroy itself by getting rid of its water-supply and the greatest vigilance is constantly required to counteract its suicidal tendencies. Steam is necessarily formed very rapidly, but the high speed, high pressure, double cylinders use it up equally fast or faster, and both skill and experience sometimes fail in keeping up a working head of power. Cold weather or a strong wind interferes with steam-production, and unless rainwater is used exclusively the boiler is apt to give a great deal of trouble by "foaming" which, if not properly attended to, quickly results in fatal injury to the flues, and the carriage cannot again be used until the boiler is sent to the factory for expensive repairs. The proper supply of fuel, water and steam call for unremitting attention, and the wearing parts must be frequently examined and oiled. Small water-pipes exposed to the air will freeze up in zero weather, therefore the carriage can be used only in mild climates or in summer. The machinery is all exposed to dust, and the sprocket-wheel which drives the rear wheels only clears the ground by nine inches. There are no gauges to indicate the amount of fuel or water in the tanks, and no automatic pump governor to keep the boiler regularly supplied. When in use the burner gives off bad odors, and more or less steam cloud results dependent upon the condition of the atmosphere, while the exhaust makes enough noise to alarm horses if at all timid. If the vehicle is allowed to stand with steam up for but a few moments it will blow off steam with great alarm

to all horses nearby, and if the fire is turned out considerable time and trouble are required to restore steam-power before the journey can be resumed. Some of its advantages, however, are possessed by no other form of automobile. It weighs scarcely five hundred pounds yet has power sufficient to climb easily twenty-five per cent. grades. It has good starting ability and strong steady pull not dependent upon momentum, it develops speed rapidly and may be easily and accurately controlled in every way. It carries fuel sufficient for a seventy-five-mile run and may be recharged by simply refilling the fuel tank with common stove gasoline. It carries water sufficient for a run of twenty-five miles and may be watered as conveniently as a team of horses. There is more good prospects of improvement along practical lines in the steam automobile than can be discerned in either the electric or the gasoline carriages. Many of the present defects admit of correction, and when a steam-generator is put in use which instantly converts into steam small and variable quantities of water so that the power needed may be produced at will without a reserve supply of water and steam in a boiler, there is no apparent reason why all of the objections found in the steam carriage of to-day may not be successfully met.

It is to be supposed that the manufacturers of automobiles will take exception to some of the statements which I have made, but I speak from actual unbiased experience with a familiarity with the subject obtained by several years of close study and observation. The country physician cannot successfully use any automobile now on the market to make his regular trips over average roads at all times of the year, and an investment made upon different representations will result in disappointment and failure.

CLINICAL MEMORANDUM.

RESULTS OF TWO HUNDRED OPERATIONS ON INSANE WOMEN.[1]

BY R. M. BUCKE, M.D.,
OF LONDON, ONTARIO, CANADA.

I HAVE in the past taken up so much of your time that in truth I almost fear to infringe upon it further. If I do so it is your own fault, the indulgence you have extended toward me encouraging me to again address you. I will not, however, upon this occasion tax your patience as I have done so often in the past. My intention to-day is comparatively innocent. I propose simply to make a report to you of our gynecological work at London Asylum down to date, in order that you may see what we are at present doing and what results we have so far achieved.

We have examined 256 women, in nearly every case under an anesthetic. In these 256 cases we have found structural disease in the uterus, ovaries or their adnexa, 219 times. We have operated in 200 of these cases. In three more of the 219 we intend to operate immediately. The other 16, although there was disease, were not considered suitable cases for operation.

The diseased conditions found in the 219 women were as follows: Subinvolution or endometritis or both in 146 cases; diseased or lacerated cervix in 71; polypus of the cervix in 5; retroverted or prolapsed uterus in 77; new growths, fibroids, etc., in 19; diseased ovaries or tubes or both in 36; perineal tears and fistulae in 39; that is, 393 diseased conditions in the 219 women.

The operations performed in the 200 cases so far attended to have been: Curettage, 151; trachelorrhaphy or amputation of the cervix, 62; Alexander's operation for retroversion, 44; ventrosuspension of uterus, 16; perineorrhophy, 31; ovariotomy, 26; hysterectomy, 25; myomectomy, 5; celiotomy for tubercular peritonitis, 2; or, 362 operations in the 200 cases.

The result of these operations stated in general terms has been in the first place four deaths. In the other 196 women the bodily health has been either restored or improved in nearly every case. Upon the mental condition the result has been the recovery from their insanity of 83 women, and the marked mental improvement of 45 other women, leaving (to date) 68 of the 196 women so far mentally unimproved. But it must be borne in mind that several of the patients recently operated upon and so far unchanged mentally are liable to improve or recover, and that several of the patients who to-day are set down as improved are liable to become, after a longer time, quite well.

One of the most interesting points in our experience has been the diversity in the result of the operation corresponding to the diversity in the organ operated upon, that is, corresponding to the character of the disease removed. In order to bring out this point more clearly I will include now in our consideration 63 operations other than gynecological done also within the last five years. Many of these 63 operations in general surgery were Bassini's for hernia, the others mostly removal of new growths. As a result of these 63 operations we had only one mental recovery, while as stated we had 83 mental recoveries after the operations in the 200 gynecological cases.

If now we classify the 196 cases which continued to live after the operation, we find that of 13 cases of repair of torn perineum and operations for fistula, only 2 recovered mental health. Of 21 cases of removal of tumors only 8 recovered, whereas of 54 cases of cure of prolapsed uteri and adnexa 23, or nearly one-half, recovered. Of 83 cases of removal of disease of the body of the uterus or of the cervix 35, also nearly one-half, recovered, and of 25 cases of removal

[1] Read before the American Medico-Psychological Association, Richmond, Va., May 22-25, 1900.

of disease of the ovaries or tubes or both no less than 15 recovered.

The meaning of these facts seems to be that of the diseased conditions under consideration diseases of ovaries and tubes have the most influence upon the mental health of the patient, that is, the most influence in the causation of insanity; that disease of the body of the uterus and cervix comes next in importance as a cause of mental disturbance; that uterine tumors and tears of the perineum rank still lower, and that ordinary surgical diseases, such as hernia and tumors of the body at large, seem to have no influence at all as causes of such disturbance.

This, it seems to me, is exactly what we might expect, since the ovaries and tubes are the most vital, the most highly organized, the most intimately associated with the mental and spiritual life of all the organs under consideration, the uterus and cervix being the next most vital and highly organized, and so on to organs affected by ordinary surgical diseases which do not appear to exercise any influence in the causation of insanity.

But, it will be said, if so many cases of insanity at London Asylum are really cured or bettered by this method of treatment, which at that institution at least is new, then the statistics of the Asylum should show the influence of the new factor. Well, so they do. For instance: The average recovery-rate, including cases improved, in the male halls of London Asylum for the four years 1892-95, calculated upon the whole number under treatment, each year was 5.1 per cent. For the four years 1896-99 it was 4.7 per cent. The average recovery-rate, including cases improved, in the female halls of the asylum for the four years 1892-95, calculated upon the whole number under treatment each year, was 4 per cent., whereas for the four years 1896-99 (after the operative work had become a factor) it rose to 5.55 per cent.

Again, the average recovery-rate, including cases improved, calculated upon the admissions, was in the male halls during the four years 1892-95, 34 per cent., and in the four years 1896-99 it was 37 per cent.

In the female halls for the four years 1892-95 the recovery-rate, calculated upon the admissions, including cases improved, was 35 per cent., but in the four years 1896-99 (after the operative work had become a factor) it rose to 51 per cent.

There is still another way of presenting the same fact. For the last twelve years the number of patients in residence and the annual admissions have remained about the same year by year; and on the men's side the recovery-rate has also remained practically stationary. But not so on the women's side of the house. For instance, during the four years 1888-91 a total of 76 women was discharged from the asylum recovered and improved. During the next four years 1892-95 (in the course of the last one of which we operated on 19 cases, 3 of the patients recovering and being discharged before the end of the year) 93 women were discharged recovered and improved. But during the last four years, 1896-99 (throughout which period nearly all our operative work has been done), no less than 130 women have been discharged recovered and improved. This means that certainly over 40 women and probably nearer 50 during the last four years have owed their discharge from the asylum (recovered or improved) to this operative work, and that without it they would be at the present time either dead or still residents of the asylum.

In conclusion I want to say that we never in any case operate for insanity. We deal with our patients just as if they were sane. A woman is admitted to the asylum. She is sick. We find on examination that she has a subinvoluted uterus, an ovarian tumor, or a lacerated perineum. We remedy the defect, if we can, whatever it is, knowing well that her general health cannot be brought up to par until that is done. Had the patient been sane, just sick in the ordinary sense, the operation would equally have been required and we should have done it. Or the woman may be an epileptic and her recovery from her insanity may be hopeless. It makes no difference—we perform whatever operation (if any) is indicated by the woman's physical condition. It is for that we operate; if her mental condition is also improved or restored we are glad, though we did not operate for that. But even if a sane woman has an ovarian cyst or a retroverted uterus or a torn perineum and is cured by an operation, is not her mental condition improved? In both cases the mental improvement or recovery, if it occurs, is a very natural result of relief from physical disability, disease and suffering.

MEDICAL PROGRESS.

Hysteria; Its Nature and Etiology.—It is commonly agreed that hysteria affects the cerebral cortex alone, for in its origin it is most closely related to psychic stimuli, in its course it can be affected only by psychic influences, and in its symptomatology the psychic centers alone are involved. In hysterical amblyopia or amaurosis, writes C. L. Mix (*N. Y. Med. Jour.*, Aug. 4, 1900), it can be shown that the patient sees with the eye supposedly blind, that there is no lesion of retina, optic tract or secondary visual centers, but that the sight-perception area in the occipital cortex is insensitive to visual impulses. Similarly the heat and cold sensations, areas of anesthesia, paralyses, etc., are due to faults of the sensory and motor areas of the cortex and not to lesions of the cord. Hysterical disturbances are always functional and belong to one or more of three types: (1) Deadening of sensory excitability, resulting in hypesthesia, anesthesia, hypalgesia, analgesia; or deadening of the cortical motor discharge with paresis and paralysis.

(2) Intensification of the perception of the entering impulse, as in hyperesthesia and hyperalgesia, or of the energy of the motor discharge resulting in spasms and convulsions, often reflex. (3) Confusional interpretation of entering impulses as in paresthesia, of confusion in the motor discharge of cortical cells manifested by hysterical ataxia, contractures, etc. The predisposing causes are heredity, adolescence, female sex, protracted and exhausting constitutional disease, disease of the sexual organs, and faulty education and home-training with failure to teach self-control. The exciting causes are *psychic trauma,* as fear, jealousy, mental strain, etc.; *physical trauma* as in railroad spine, *suggestion* as in hysterical joints, repeated medical examinations, etc., and various *toxemias,* due to alcohol, lead, morphine, cocaine, etc. The keynote of hysterical manifestations is their multiplicity and variability. The mild form, with psychical excitability, restlessness, anxiety, hypochondriasis, headache, globus hystericus, dyspepsia, palpitation, and fugitive vague pains, is often confused with neurasthenia. The more marked cases show sensory disturbances, paralysis, aphonia, contractures, anorexia, vomiting, various neuralgias, etc. In the most intense form there are convulsions and other symptoms of gravity. The development is gradual, as a rule, but in the traumatic form it may be sudden; the course is rarely acute, usually chronic and incurable, yet deaths have resulted from hysterical fright. In diagnosis, if any one organic symptom is present, careful search must be made for the organic disease suggested, not forgetting, however, the possibility of a combination or organic disease with hysteria.

Vulvovaginitis in Children.—According to etiology, says H. B. Sheffield (*N. Y. Med. Jour.,* August 4, 1900), this may be divided into three types, *viz.,* catarrhal, due to want of cleanliness or chemical irritation, traumatic due to masturbation, mechanical injury, or indecent violence, and parasitic, due to oxyurides, saprophytes, and pathogenic bacteria, especially the gonococcus. The differential diagnosis is of the utmost importance and is not difficult following the above classification. Meeting with a case we first obtain a full history, then inspect the affected parts, and finally examine the vaginal discharge under the microscope. This last should be just as much a routine as the rest of the examination, as gonorrhea may complicate any of the other forms. The active treatment depends on the cause. Foreign bodies must be removed, worms destroyed by small doses of calomel and santonin and the injection of infusion of quassia, and protargol solutions injected to arrest the discharge. The usual protargol solution is one per cent. weaker if the mucous membrane is sensitive, and two per cent. in gonorrheal infection. One to two ounces of this is injected into the vagina after thorough cleansing with a five-per-cent. solution of sodium bicarbonate, and allowed to remain for five minutes, this to be repeated three to five times in twenty-four hours. When the urethra is involved, crayons of protargol and iodoform, each one grain, peruvian balsam one-half drop, extract of belladonna one-twelfth grain, and cocoa butter, q. s., may be introduced once or twice a day. For painful micturition use alkaline sitz-baths and alkaline diuretics; for severe pruritus the child is put to bed and a powder of zinc oxide and starch applied. For prophylaxis in gonorrheal vulvovaginitis, the child must be isolated, and prevented from using common closet, bath or towel. To prevent ophthalmia a few drops of a half-per-cent. solution of protargol may be dropped into each eye three times a day, and a vulvar pad of absorbent cotton with an outer layer of oiled silk applied snugly over the vulva by means of a T-bandage. The arms may be held up by a sling. To prevent peritonitis, avoid douching, or at least do not have the douche-bag more than two feet above the level of the child's body, as by a strong current the vaginal secretion may be forced into the uterus and tubes. A half-ounce glass syringe with a small, soft-rubber catheter is the best injector.

Hypnotism in General Practice.—All cases may be divided, says E. H. Martin (*Med. Rec.,* August 4, 1900), into three classes in this regard, those in which nothing will do so well as hypnotism, those in which hypnotism aids other treatment, and those in which hypnotism is not worth while. In the first class are persistent insomnia, nausea and vomiting of pregnancy, the pressure pains of the fifth or sixth month of pregnancy, wrenched back, headache and toothache not of organic origin. The second class includes a large number of conditions, as minor surgical operations, extracting teeth, labor pains, irritable stomach following pneumonia, etc. Complete surgical anesthesia can rarely be induced, but usually pain is relieved. The author adds a few words of caution never to use it for fun, or unless the case demands it, and use it as seldom as possible. As to its use in hysteria, in most cases the subjects will fail to become hypnotized, or when they do succumb they may go into astonishingly exaggerated stages of hypnosis, catalepsy, somnambulism, etc., and may exhibit contractures. If one hysterical symptom is removed another takes its place, because hysteria is a derangement of the functional activity of that part of the brain, the product of which is called the "subconscious" mind, the very thing that is acted upon by hypnotism. Simple suggestion does more good in the largest number of hysterical cases. For methods, the author refers to the works of Moll and Bernheim.

Medicinal Treatment of Appendicitis.—As the presence of intestinal accumulations in this condition, writes C. Rosewater (*Med. Rec.,* August 4, 1900), threatens to aggravate the inflammation, the first step is to empty the bowel by calomel and a saline cathartic. Next a high enema of a gallon or two of salt water unless an abscess is

made out. Keep the patient on his back, give peptonized milk, place an ice-bag over the groin, and avoid opiates. For irritable stomach give calomel, gr. 1-20 every hour, and cracked ice or iced champagne. For the fever and nervous manifestations, salol and phenacetin, each gr. ij, with caffeine citrated, gr. ⅛, every two to four hours. Stimulate when necessary, and promote absorption of the exudate with ammonium iodide, gr. i-iij every four hours, followed by copious draughts of hot water.

Hydrotherapy in Pneumonia.—Pneumonia is an infectious disease which tends to destroy life, says Simon Baruch (*Med. Rec.*, August 4, 1900), by enfeebling the nervous and circulatory systems, and the indications for overcoming this lethal tendency are to fortify the nervous system, sustain the heart, promote elimination of noxious products, and render the patient comfortable by reducing temperature, deepening inspiration, and producing sleep. The pneumonia patient responds quickly to heat abstraction, and does not bear well the disturbance of tub-bathing, therefore the Brand system, so useful in typhoid, is not suitable in pneumonia. For young children, the author uses full baths at 95°-80° F. or cold affusions at 70°-60° F. in bronchopneumonia with bronchial obstruction, as in these cases pleurisy is usually absent, and the shallow breathing is relieved by the agitation, crying, and coughing from the bath. Begin with a tub-bath five degrees below the patient's temperature, and lower two or three degrees at each bath until 80° F. is reached. Bathe head and face in water at 65° F. before entering bath and apply gentle friction to the entire body while in the bath. In adults so long as the temperature is over 100° F., a compress made of three folds of old coarse linen, wrung out of water at 60° F., is wrapped around the chest from clavicle to umbilicus and covered by a layer of thin flannel one inch wider and longer. Such a compress produces a reflex nervous irritation which is shown by the patient's momentary gasp, heightened pulse tension, deepened and slowed inspiration, and lowered temperature. If the body temperature is not over 102° F., the compress may be thoroughly wrung out so as to make the impression of cold more brief, reaction more rapid and less enduring, and the whole effect more stimulating. If the temperature be high, let the compress remain soaked with water at 95° F., so rendering the reaction more slow and enduring, abstracting more heat, and making the general effect more soothing and antipyretic. If there is a depressing effect, evidenced by prolonged chilliness, chattering of teeth, and cyanosis, the procedure must be modified or abandoned. At the same time milk or other liquid food is alternated with four to six ounces of water at 45° F. by mouth. The former ensures systematic nutrition, the latter acts as a cold douche to the stomach, increases the urine, and promotes the elimination of toxins. The cold compress really becomes a poultice, soothing, relieving pain, dyspnea, shallow and rapid breathing, but not relaxing the cutaneous vessels, and elevating temperature, as does the old-fashioned hot poultice. At the same time there is an increase of blood-cells beneath the compress when the reaction occurs, and this in itself must enhance the natural processes of restitution.

Operative Treatment of Goiter.—J. Berry (*Brit. Med. Jour.*, July 7, 1900) publishes some observations on the surgical treatment of goiter. While the enucleation is simple and safe, it is applicable only to localized tumors, hence skill in diagnosis is very essential. To attempt enucleation in an unsuitable case and to abandon it for an extirpation means considerable danger from hemorrhage and increased difficulty in performing extirpation. Many goiters, especially soft parenchymatous ones in young people, are curable by medical means; a still larger number, though not curable, do not cause sufficient trouble to demand operation. The main reason for operating is dyspnea, either present or threatened; or in elderly people increase in hardness and size leading one to suspect malignant change. In a few cases operation is undertaken because of deformity. Dysphagia is rarely a prominent symptom of benign goiter. There are two types of goiter especially dangerous to life by causing sudden dyspnea, *viz.*, the bilateral, rapidly-growing, parenchymatous goiter in young people, in which fatal dyspnea may intervene within a few hours, and the unilateral tumor, situated so low in the neck as to be jammed in the upper opening of the thorax, which, from displacement or sudden increase from internal hemorrhage, may cause most grave symptoms. Unless such cases yield readily to medical treatment surgical interference is advisable. When a small goiter is associated with marked dyspnea the trachea is nearly always compressed by another tumor hidden from view. In cases of marked dyspnea there is grave danger in the use of a general anesthetic, especially just as the tumor is being lifted from its bed. A local anesthetic allows the patient to give intelligent assistance, prevents the venous oozing due to retching, and efficiently prevents pain. The incision giving most room is one along the anterior border of the sternomastoid. The transverse incision leaves a better scar low down in the neck, but it gives little room, and it is often necessary to cut the anterior neck muscles. In extirpation one must avoid injuring the recurrent laryngeal nerves, and a good way to do this is to isolate the lobe from surrounding tissues till near the trachea, and then to cut through the capsule and leave *in situ* the portion of capsule and a thin layer of gland which naturally cover the recurrent nerve. In enucleation one must keep a watchful eye on the hemorrhage. The results are uniformly good.

Torsion of Ovarian Pedicle.—A. Doran (*Brit. Med. Jour.*, July 14, 1900) says tumors of ir-

regular form are very liable to become twisted, especially when the pedicle is short. Where there are two tumors one may cause the other to rotate. When a big cyst is tapped it often produces a torsion of the pedicle as it empties, but this should not be registered among torsion cases. Dermoids especially tend to rotate on their pedicles, partly because they are irregular in form and partly because they are often overweighted at one point by masses of bone or other heavy substances. The contraction of the abdominal muscles is more apt to cause rotation of a tumor than intestinal peristalsis or the passage of scybala, although authorities are still divided on this subject.

Rupture of Apparently Healthy Esophagus.—E. J. McWeeney (*Lancet*, July 21, 1900) summarizes the results of a study of cases of rupture of apparently healthy esophagus as follows: The great majority of cases are in men in the prime of life; especially those addicted to alcohol and subject to frequent attacks of vomiting and retching; retching or vomiting is almost invariably the exciting cause. The symptoms consist of a sense of "giving way" within, agonizing pain, soon followed by dyspnea and collapse; the pain is aggravated by swallowing; the characteristic attitude is a sitting posture with the trunk stooped forward as far as possible; the most striking and most constant symptom is emphysema, appearing first in the neck and spreading to the face and trunk. The great majority of cases die within twenty-four hours. The rupture is almost invariably a longitudinal slit, just above the diaphragm, usually opening into the left pleural cavity. The two chief etiological factors in rupture of macroscopically normal gullet are softening of the coats, and sudden increase of pressure from within. The softening is due partly to intravital digestion, and partly to inflammatory infiltration. The digestion is due to circulatory disturbance and prolonged sojourn of peptic matters in the gullet from retching. Increased pressure is ascribable to violent propulsion of gastric contents into the lower part of the gullet while the upper part is obstructed by muscular spasm due to overactivity. All cases have been fatal, but with the development of mediastinal surgery lies hope for the future.

Etiology of Cancer.—The *Birmingham Medical Review* for July, 1900, contains the report of a committee whose object it has been to ascertain the influence of external factors on the prevalence of carcinoma in England and Wales. It was found that there are areas more or less extensive throughout the whole of which the percentage of deaths from cancer is very much above, and others where it is very much below, the average. It was also evident that there are circumscribed often clearly-defined areas, where the percentage is very high and that there exist groups of houses in which cancer has occurred with great frequency. It was not so easy to answer what physical conditions are present in those districts where cancer is common and absent from those where it is rare, but it is significant that old streets and houses seem to contribute an undue proportion of cases and that contamination with sewage is very frequently present. No uniformity of opinion could be obtained with reference to the geological character of the subsoil, it being stated by some observers that cases occur more often upon a clay soil, and by others upon a sandy or gravelly soil. It is probable that a stiff clay subsoil lying in a hollow would prevent or retard the running-off of the surface-water and more readily permit of the gradual contamination of the soil, while, if lying on a slope, the same characteristic of want of porosity would act in the contrary direction. The next points dealt with were the effects of "age and sex incident." The results clearly show that it is only a small proportion of the increased or diminished death-rate from cancer which is due to these causes. The committee is also inclined to think that owing to the great difficulty of diagnosis the death-rate from cancer is probably at present underestimated, and that there is some evidence suggesting that under certain circumstances cancer may possibly be transmitted from one person to another in constant close association.

Intestinal Syphilis.—A. Fournier (*Klin. therap. Woch.*, July 15, 1900) wishes to draw the attention of physicians to the fact that in obstinate chronic diarrhea the possibility of syphilis as a cause in the form of miliary gummata, ulcerative infiltrations, cicatrices, stenoses and perforations, should not be overlooked. There is nothing pathognomonic in the diarrhea which is usually accompanied by colic, but suspicion should be aroused (1) when syphilitic antecedents are present; (2) when no other cause can be determined; (3) when it resists the usual treatment, but readily yields to antisyphilitic medication, and (4) when other tertiary signs exist. Syphilitic enteritis may occur very late and is liable to recur. Iodide of potassium seems to be less able to control it than mercury, but the author has obtained the best results from mixed treatment.

Treatment of Gonorrhea.—The daily irrigation of the anterior and posterior urethra with half a liter of a hot solution of silver nitrate, 1 : 4000 increased to 1 : 2000, by means of a Janet irrigator is lauded by M. Hodara (*Monatschft. f. prak. Dermatolog.*, July 15, 1900) as the best treatment for urethritis, since a perfect cure is effected in from two to four weeks and no complications make their appearance. The same treatment is equally efficient in acute epididymitis of gonorrheal origin.

Congenital Tuberculosis.— B. F. Lyle (*Phila. Med. Jour.*, August 4, 1900) reports a case of tuberculosis in an infant which he thinks was congenital. The mother was a colored woman who was admitted to the hospital with all the

symptoms and physical signs of tuberculosis, from which she had been suffering for two years. She was in a delirious condition most of the time while in the hospital. Thirteen days after admission she gave birth to a child without any warning of any kind, and was apparently oblivious of her travail. The mother died two days later, and the autopsy gave abundant evidence of her tuberculous condition. The child weighed three and a half pounds at birth, and gradualy increased in weight during the first eight weeks to five pounds, and then lost somewhat. The child's temperature was subnormal at first, and then was above normal until shortly before death. It had a good appetite until the week before its death. The post-mortem examination showed a greatly emaciated body. The lungs were filled with myriads of minute caseous tubercular deposits, some of which had coalesced. There were similar deposits also in the liver and spleen. In the kidneys there were a few caseous deposits in the cortical substance. The bronchial glands were much enlarged. The masses contained tubercle bacilli. Intestines and mesenteric glands were normal. Lyle believes that this was a case of congenital tuberculosis, because (1) the child was removed from all danger of inspiring the germs by being kept away from the wards; (2) the freedom of the intestines and mesenteric glands from indications of the disease show that it was not contracted through the milk; (3) the child was evidently ill at birth, as shown by the subnormal temperature at first, and by the elevated temperature after the child had gained some strength, the temperature-curve throughout being characteristic of tuberculosis; (4) a synchronous infection in the blood of the child is indicated by the great number of deposits, all in the same stage, in the various organs. The only source of the bacilli could be the mother's blood.

Transportation of Disease by Dust.—Dust may act injuriously upon us in two ways: (1) By an irritant action on the respiratory passages, and (2) by the transportation of pathogenic bacteria. H. C. Ernst (*Boston Med. and Surg. Jour.*, August 2, 1900) says that there can be no doubt of the irritant action of dust upon the respiratory passages, as it is composed of minute jagged particles of mineral and vegetable matter which plainly would irritate any weakened area of the respiratory tract. As to the transportation of disease by dust, in a few cultures from dust the writer found the amount of gas production to be very great and the bacteria numbered about 80,000 to the gram. Two inoculation experiments produced only local necrosis. He had not had time to carry his experiments further when this paper was read. He, however, quotes fully the results of the studies of Germano, who classified bacteria according to their resistance to drying as follows: (1) Typhoid, cholera, the plague, influenza and gonorrhea bacteria often died within twenty-four hours. Chance of transportation of these diseases by the air is very slight. (2) The streptococci, the pneumococci and the diphtheria bacillus showed great variation in resistance to drying, some living even a month, but most of them died quickly. (3) The diplococcus intracellularis, the staphylococci of suppuration and the bacillus of tuberculosis were still more resistant. (4) This group includes the spore-producers, which in this way may resist drying for an indefinite period, anthrax tetanus, malignant edema, etc. Ernst concludes, from his own studies and from those of other investigators, that the danger from dust is greater from the direct irritant quality of the dust itself than from the chance of the transportation of any infectious disease.

Malaria with Acute Abdominal Pain.—J. A. Capps (*Jour. Am. Med. Assoc.*, August 4, 1900) reports in detail four interesting cases of malaria associated with acute abdominal pain. The patients were all women and were sent to the hospital for operation for acute salpingitis, gallstone, colic or gastric ulcer with perforation, extra-uterine pregnancy, and appendicitis, respectively. In each one of these cases the following observations were made: (1) There were intermittent fever, nausea and vomiting and enlargement of the spleen. (2) There was acute abdominal pain of such intensity that exploratory laparotomy was considered by men of experience. (3) The acute pain subsided along with the fever and with the other symptoms after the administration of quinine. (4) Typical intracellular forms of the tertian parasite of malaria with motile pigment granules were present in the peripheral blood, but never very numerous. (5) Leucocytosis was invariably absent. (6) A considerable degree of anemia existed of the secondary type. The presence of the tertian parasite in each case demonstrated the presence of malaria, and the subsidence of all symptoms after the administration of quinine confirmed the diagnosis. The cause of the pain must be either (1) some coexisting disease; (2) a neuralgia from malarial poison, or (3) both combined. In not one of these cases was there a coexisting disease in an *acute* state. This point was indicated by the absence of leucocytosis, and illustrates the value of the leucocyte count. The writer thinks that the chronic disease coexisting in two of the cases may be considered as the predisposing cause of the pain. He, however, thinks that the pain was a neuralgia caused by the malarial toxin in the blood, and he cites numerous writers showing that malaria is often considered to be the cause of neuralgia and also neuritis. He divides the neuralgias of malaria into (1) the toxic, occurring during the febrile attack, associated with the presence of the plasmodia in the blood, and due to an intoxication with the malarial poison, and (2) the post-infective, which are the result of anemia and cachexia. Capps emphasized the importance of examining

the blood for malaria and of counting the white blood-corpuscles in all obscure acute abdominal diseases. Malarial neuralgias require large doses of quinine. In post-infective neuralgias the anemia present must also be treated.

Foreign Bodies into the Intestines.—Wunderlich of Neudorf (*Münch. med. Woch.*, July 10, 1900) relates two cases of foreign body left in the abdominal cavity after laparotomy. Case I., female, aged fifty-six years; laparotomy for a large ovarian cyst with adhesions complicating and prolonging the operation; primary and prompt union of the wound; perfect recovery; four months after operation sudden inexplicable onset of bad diarrhea resisting medicinal treatment; after a time a piece of gauze about six by twenty-four inches was passed and all symptoms ended. Case II., female, aged thirty-nine years; much depreciated by severe long-standing cholecystitis; anemia; jaundice; emaciation; extirpation of the gall-bladder relatively easy; good progress till thirty-six hours after operation; sudden death apparently from heart-failure. Autopsy showed a healthy peritoneal cavity containing a piece of pad such as is used to wall off the cavity during operation. It seemed to have no relation to the exitus. These two accidents occurred although assistants pronounced the counts correct. Now the writer counts instruments and pads himself.

Tuberculous Osteo-arthritis. — G. Trunegek says that tuberculosis of the joints (*La Semaine Médicale*, July 11, 1900) may be the primary single focus or the expression of a general infection or one of several foci. Of such conditions general adenitis in children and pulmonary lesions in adults are familiar examples. The peculiar reaction of the organism to the bacillus of Koch indicates that any treatment of an accessible nidus must have in mind either the total extirpation of that morbid center and replacement of it by healthy granulation or scar-tissue or the shutting off of it from the surrounding healthy tissue. Several good methods of treatment have been in use for some time. Surgical extirpation is not always advisable or permissible. The method of Bier by which great circulatory activity about the joint is aroused fails wholly or partially when sinuses exist. Hence it is applicable only in relatively early cases. The use of chloride of zinc, suggested by Lannelongue, is most excellent, but sometimes fails because the caustic is too highly destructive and does not penetrate deeply into the crevices and pockets of the sinuses. But with the necessity of a destructive agent in mind the author set out to find a caustic which would properly replace the zinc chloride. The essentials of such an agent are fluidity, activity, non-toxicity, and penetration. The fluidity must be such that, no matter how devious the abscess cavity or the tract, under slight pressure it will reach all the depths. The activity must make it absolutely destructive to the pyogenic membrane and germs but not of too much healthy substance adjoining. Absorption of the caustic must not result in toxic symptoms and its penetration must not sacrifice the adnexa too much. It was concluded to try the constituents of normal blood-serum which are as follows:

Sulphate of soda, 0.44 grains; chloride of soda, 4.92 grains; phosphate of soda, 0.15 grains; carbonate of soda, 0.21 grains; sulphate of potash, 0.41 grains; water up to 1000 grains; by increasing the proportion of these salts a caustic of the above features was produced. The formula finally adopted was this: Sulphate of soda, 1.46 grains; chloride of soda, 16.40 grains; phosphate of soda, 0.50 grains; carbonate of soda, 0.70 grains; sulphate of potash, 0.94 grains; water, 80.00 grains. The resulting fluid is clear, transparent, of disagreeable saline, burning taste, alkaline, probably non-toxic, composed of salts with which the tissues are normally in contact and which if absorbed will therefore be readily and quickly eliminated. After many trials in some of which a quart of a twenty-five per-cent. solution was employed no poisonous effects have been observed. The details of the method are these: The mouth of the sinus is gently cleansed and a very careful, gentle exploration is made to fix upon its depth and direction. Then an open-end cannula is passed into the sinus until slight resistance is felt; it is then withdrawn to insure the patency of the mouth. After the skin has been protected with boric-acid vaseline, the injection is made. To aid its penetration cotton is plugged tight about the cannula into the mouth of the sinus and considerable pressure is exerted. When there are several sinuses the return flow often passes through one of the auxiliary channels. Each sinus is *seriatim* treated until the return flow is practically clear. By this time the pyogenic membrane is thoroughly destroyed and the next step of the operation is done, consisting in injecting the sinuses and joint-cavity carefully with ten-per-cent. iodoform solution in ether. This menstrum is most rapidly volatilized and leaves the iodoform evenly distributed and in a finely-divided form everywhere. The reaction after this vigorous treatment is always violent, very but not intolerably painful, and usually highly efficacious. If a second injection into the same tracts is needed an interval of four to ten weeks is usually allowed to elapse. During the stage of inflammatory reaction the treatment comprises rest in bed, immobilization, cold applications and perhaps pressure. Among the advantages of this method are to be named its bloodlessness, always worth consideration in anemic, depreciated subjects, and its concentration upon the diseased tissues. Curetting may open the healthy tissues to further tubercular invasions while this probably destroys alike the germs and their inflammatory products. Among its indications may be enumerated osteo-arthritis, ostitis (if without sequestration), selected cases of coxalgia, abscess of joints even if deeply placed, chronic abscesses, and such tuberculous lesion.

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SATURDAY, AUGUST 11, 1900.

SURGICAL INTERFERENCE IN PERFORATION OF TYPHOID FEVER..

THIRTEEN years ago when Dr. W. W. Keen and Prof. J. C. Wilson first discussed the question of operating in a case of perforation in typhoid fever, not a case had been operated upon in this country and only one in Europe by Mikulicz. Since that time each year has seen reported an increased number of operations. Keen (*Jour. Am. Med. Assoc.*, January 20, 1900) has reported a series of 158 cases in which operation was performed for perforation. Recently Geo. B. Shattuck, J. Collins Warren, and Farrar Cobb (*Boston Med. and Surg. Jour.*, June 28, 1900) have made an exhaustive report upon 24 cases of typhoid operated upon because of symptoms of peritoneal infection due to intestinal perforation. These cases occurred between the years 1895 and 1900. Of these cases 18 had a positive Widal serum reaction; in 3 cases the Widal reaction was negative; and in 3 the Widal test was not made. Thus this test, corroborated by the clinical diagnosis and by the pathologic findings at the operation or post-mortem, leaves no doubt as to the correctness of the diagnosis of typhoid. All these cases presented symptoms upon which a diagnosis of perforation was made and for which an operation was performed. And yet, in 3 cases which presented symptoms of intra-abdominal infection from perforation, and were operated upon for that reason, absolutely nothing was found at the operation which could account for the symptoms. In one case operation was unable to demonstrate any cause for the general septic peritonitis which was present. Two other cases, which presented severe symptoms of intestinal perforation, at operation showed a general septic peritonitis originating in necrotic areas of peritoneum over the bases of one or more typhoid ulcers. In another case the cause of the symptoms of perforation was found at operation to be a general septic peritonitis from a ruptured mesenteric gland. Thus only 17 cases of the 24 reported were cases of peritoneal infection from actual perforation of the intestinal wall, but all presented the usually accepted symptoms of actual perforation. Twenty-one were cases of grave peritoneal infection in typhoid fever, and 3 presented the symptoms of peritoneal infection, but the diagnosis was wrong.

From these cases it appears that acute abdominal infection occurs most often between the ages of 18 and 30; that it is most frequent in men; and that it is rare in children. The fact that 18 of the 24 cases were mild cases of typhoid and that in 15 of these 18 mild cases perforation or general septic peritonitis was present, emphasizes the point that there is no relation between the severity of the cause of the fever and the likelihood of intestinal perforation. A sudden, acute exacerbation in these mild cases often indicated a sudden perforation with extravasation, while sudden fulminating symptoms in the severely sick cases were due, in a majority of these cases, to a general septic peritonitis which had been unsuspected and had developed gradually. Peritoneal infection from perforation took place during the second and third week of the disease in the greater number of cases.

In most of these cases there were definite premonitory symptoms at a time more or less remote from the severe symptoms which first led to the diagnosis. The classical diagnostic symptoms of intestinal perforation, as given in text-books, did not present themselves as a complete picture in any one of the cases. Of the seven cases, which presented fulminating symptoms and which conformed most closely to the hitherto established idea of the symptoms of intestinal

perforation, only five proved to be due to *actual sudden perforation*, while one was not a perforation at all, and in the other the perforation and subsequent peritonitis did not cause any symptoms. Sudden, severe pain, more or less localized in the right inguinal region, and accompanied by tenderness, was the chief symptom present in those cases which were proven to have perforation. There were 14 cases in which the onset of the abdominal symptoms was more or less gradual. In all these there were *distinct, warning indications* before the appearance of distinct severe and diagnostic symptoms. In all cases complaint by the patient of abdominal pain was followed by peritoneal infection. This warning abdominal pain preceded the severe symptoms by hours or days, and determined the diagnosis and the decision to operate. It is seen, from these two groups of cases, that in most of them, positive diagnosis of perforation was not made, but only a diagnosis of the peritonitis resulting from the perforation.

As to the time of operating, in the 7 cases without warning symptoms operation was done within twelve hours in every case; of the 14 cases with warning symptoms 9 were operated upon within five hours from the onset of the severe symptoms, or the time of positive diagnosis of perforation, and the others within twenty-four hours. This is in accordance with Keen's rule to operate as soon after perforation as possible, provided profound shock is not present.

In every case the perforation was found in the ileum. The size of the perforation varied from a "pin's head" to a "large irregular hole." The abdominal incision was made in the right iliac region in 12 cases and was median in 7 cases; the incision is not noted in the other cases. In the cases in which the median incision was made a long overhauling of the intestines was necessary before the perforation was found. It would seem from the site of the infected areas that the right lateral incision should be employed as a routine.

The authors discuss the kind and amount of the peritonitis found in these cases, but their findings are not of great moment, except that in those cases of sudden perforation operated upon within eight hours of the first symptoms general peritonitis was not found, while in those cases of gradual onset operated upon within eight hours of the severe or diagnostic symptoms an extensive general peritonitis was invariably present.

From a study of their cases the authors conclude that the diagnosis of intestinal perforation in typhoid is difficult, but that any complaint of abdominal pain in a typhoid case, especially if localized and especially in cases of a mild type, should be regarded as a serious danger signal. The occurrence of pain, especially localized, is not frequent in typhoid fever unless it means peritoneal infection. The majority of cases of perforation have initial symptoms referred to the right iliac region. Leucocytosis is considered as a diagnostic symptom, but in only 11 cases were leucocyte-counts made and the record of these is not complete. However, from the counts which were made it would seem that the white blood-count made hourly after the occurrence of the warning abdominal pain would have been of the greatest importance diagnostically.

Of the 21 cases in which local or general infection was found at operation 4, or 19 per cent., recovered, although one of these died five days after operation from intestinal hemorrhage, there being no peritonitis and the suture being found intact at the autopsy. The rate of recovery in Keen's 158 cases was somewhat better, being 23.41 per cent. Of the 24 cases—21 with abdominal infection and 3 with no infection found at operation—6 cases, or 25 per cent., recovered absolutely from laparotomy performed in typhoid fever. This tends to show that abdominal operation in the absence of infection is well borne in typhoid. The mortality in cases of typhoid operated upon for abdominal infection from perforation depends upon the kind, amount, and virulence of the peritoneal infection, and the resisting power of the patient. The mere operation does not kill them, nor does the fever contraindicate the operation. It must be appreciated that the severe symptoms more often mean general peritonitis, and that the earlier and milder symptoms are more important, from an operative standpoint, as indicating perforation. A prompt diagnosis of the perforation is essential.

THE CHANGES AT ELMIRA.

MR. BROCKWAY at last has been forced out, or rather annoyed and worried until he has voluntarily resigned from the superintendency of the Elmira Reformatory. This change has been brought about by a persistent sentiment that the Reformatory inmates should not be spanked when other means of correction have failed. Notwithstanding this fact, a few days ago a revolt of a squad of prisoners was overcome by the principal

keeper, one of the new men appointed by the reformers, who threatened to "spill the ground" with the recalcitrants. From the nature of reformatory methods and discipline, if the revolt had not been quelled by this threat, it would have been necessary to carry it into effect, and as a consequence there would have ensued an exhibition of brutal violence which would have made the spanking method pale into insignificance as a form of cruelty. We have cited this one instance of the pseudo-reform principles now inaugurated at the Reformatory to show that the whole matter of reform desired by the Brockway persecutors is a sickly bit of cant and not worthy the name of reform.

It is feared that the public fail to take into account the kind of men sent to Elmira. The prisoners average twenty-one years of age; they are men, not boys; they are there for State-prison offenses, and are felons and not young men who have been a little disobedient at home under lax parental authority. They are not accidentally criminal and antisocial because of some freak of fortune, but fully 45 per cent. of them have been in conflict with the law and its restraining agencies one or more times before being sent to the Reformatory; 68 per cent. of the prisoners are practically illiterate at time of admission; 75 per cent. are without regular or remunerative employment when sent to Elmira. The means of reclaiming by military discipline and industrial methods, that are employed at the Reformatory, are well known to all and are most excellently set forth in the admirable year-books of the institution. For the completeness of exposition of reformatory work this annual report is recommended to other institutions of similar character and purpose as a model.

To disprove the often-repeated accusation that the Reformatory methods are antiquated and that new principles looking to the establishment of new methods should be tried, an experiment of last year may be cited: Mr. Brockway endeavored to determine the reforming influence of different diets upon the school's worst delinquents. While the plan was not conducted under the best conditions for testing the experiment fully and was inconclusive, the results warranted further experiments along this same line. It seems logical that the careful selection and serving of food should have correctional power and promote moral rectitude in a reform school, as well as it does in the world at large. This reform agency has been demonstrated in a practical way in many cities, at home and abroad, by establishing good hotels and restaurants for the poor.

Mr. Brockway's mantle must fall on broad shoulders, those that are experienced and devoid of sentimental cant. The recipient must not only be able to maintain discipline, which is only a negative plan of reformation and one too often considered to be the sole essential for reforming moral delinquents, but Mr. Brockway's successor must be able to maintain and nurture the high standard of excellence that has been set in operation by the devoted life-work of his predecessor; he must make good use of those factors that really make for positive reform, namely, education of mind and body, in habits of industrial thrift, and obedience to existing social laws.

ECHOES AND NEWS.

NEW YORK.

Disposal of City Refuse.—The Street-Cleaning Department has announced this week that the patent sea-going, center-dumping scows formerly used for carrying refuse to sea have made their last voyages. Their occupation is gone. There is now a prospect of again finding at the seaside resorts in the neighborhood of New York clean beaches and uncontaminated air. The intention of the Department is to utilize the refuse and ashes as filling material at points where it may be needed. The refuse will be more carefully sorted than heretofore. The garbage will be disposed of for the present at the plant on Barren Island.

Contagious Diseases.—For the week ending August 4, 1900: Measles, 96 cases and 6 deaths; diphtheria, 160 cases and 27 deaths; laryngeal diphtheria (croup), 7 cases and 5 deaths; scarlet fever, 51 cases and 5 deaths; chicken-pox, 20 cases; tuberculosis, 186 cases and 145 deaths; typhoid fever, 44 cases and 14 deaths; cerebrospinal meningitis, 7 deaths; totals, 564 cases and 209 deaths.

Albany Medical College.—An alumnus, Dr. Clarkson C. Schuyler, '75, offers a yearly prize, to be known as the Schuyler Alumni Prize for 1901, of one hundred dollars to be awarded at the annual meeting of the Alumni Association for the best essay written by a graduate of this college on some prescribed subject. The subject for next year is: "The Influence of the Discovery of the Relation of Bacteria to Disease on the Practice of Medicine Exclusive of Surgery." Competing essays, signed by some assumed name or motto, and accompanied by a sealed envelope superscribed in the same manner and containing within the author's real name and address, are to be sent to Dr. Samuel B. Ward, Albany, of the prize committee, on or before March 1, 1901.

Phenacetin Seizure.—Inspector Davidson, of the United States Custom House, who made the seizure of the packages containing phenacetin alleged to be imported by Alfred R. Goslin, has found that the contents of the three cases are as follows: Case 1—284 one-ounce packages of sulphonal, 8 four-ounce packages of salol, 50 one-ounce packages of trional, 107 one-ounce packages of phenacetin, 10 one-ounce packages of salol, and 8 one-ounce packages of carbonate of guajacol. Case 2—466 one-ounce packages, not marked, and 32 empty packages, not marked. Case 3—119 one-ounce packages of thymodine, labeled as of American manufacture; 30 one-pound bottles of salol, 6 one-pound packages of phenacetin, 25 one-ounce packages of trioline, labeled as of American manufacture; 1 one-ounce paper of morphine sulphate, 1 one-ounce bottle of bismuth naphtholic, 2 one-ounce packages of phenacetin and salol tablets, and 4 one-ounce packages of tablets not marked.

PHILADELPHIA.

Dental Institute.—The will of the late Dr. Evans, the millionaire Paris dentist, has been settled in such a way that this city will receive $3,000,000 for founding a dental institute. Work on the buildings will be begun shortly.

Bath-Houses.—After inspecting the Philadelphia bath-houses the Camden Bath Commission has recommended to Council the erection of a $6,000 bath-house. Artesian-well water may be used.

Centenarian Undergoes Operation.—At the Presbyterian Hospital recently, Harold Beyer, in his one-hundredth year, was operated upon for strangulated hernia by Dr. De Forrest Willard. The patient made a good recovery.

Pennsylvania Hospital.—The Board of Managers have received a medal from the Paris Exposition "for the beneficent work done by the hospital during the past hundred years." The honor was well merited.

Children Aided.—During July the Pennsylvania Society to Protect Children From Cruelty investigated 103 cases involving 302 children. Twenty-three arrests were made and 39 children were taken from parents, guardians, etc., and placed in homes.

Health Report.—During the week ending August 4th there were 439 deaths in the city, a decrease of 75 from those of the previous week and an increase of 11 over the corresponding week of last year. There were 40 deaths from cholera infantum and one from cerebrospinal meningitis. Thirteen of the deaths were of people between eighty and ninety years of age and three were between ninety and one hundred. Contagious diseases: Diphtheria, 81 cases, 10 deaths; scarlet fever, 34 cases, 1 death; typhoid fever, 62 cases, 10 deaths.

CHICAGO.

Dental and Medical Education.—Not long since this subject was discussed in a spirited manner in this city, the debate lasting for three hours. One of the participants in the discussion was Henry Wade Rogers, who has done so much for the advancement of collegiate education. Dr. Rogers thinks it is wrong to license students in dentistry, in law, in medicine, or in pharmacy upon a diploma. For quite a number of years in this State a man graduating from a law school presented his diploma to the Supreme Court and was licensed as an attorney. There are schools of law in Chicago which are existing for the mere purpose of making money for the men who are teaching in them. The instruction is not half as good as it would be if the men who are conducting these schools knew that the men they are sending out under their seal will be compelled to pass an examination in order to practise their profession. The same thing applies to the dental and medical as well as to the legal profession. He believes that it would be better for professional education in this country if every professional school had a connection with a university. He does not mean a nominal connection, but one that is absolute, which enables the university to control the school. The curse of education in this country is the spirit of commercialism. If the university can control the school, it can kill that spirit.

The Alexian Brothers Hospital.—The report of this hospital for the year 1899 has just been issued, showing that the patients on December 21, 1899, numbered 174, and the number received during the past year was 2406, making a total of 2580 patients treated at the hospital during 1899. One thousand seven hundred and fourteen patients were cured, 354 improved, 86 not benefited, and 184 died. Those received at the hospital during the year in a dying condition numbered 82. Of the total number of patients, 1549 were single, 745 were married, 286 were widowers. Among them were 1486 Catholics, 948 Protestants, 39 Hebrews, and 107 who professed no religion at all. The average age of the patients was forty-seven and a half years.

Diet Kitchen.—This was opened in June for the purpose of supplying pure food and milk for infants. Thus far 414 infants have been fed, and it is said that the number applying for medical aid and food is rapidly increasing.

Mortality Statistics.—According to the weekly bulletin of the City Health Department for the week ending July 26th the mortality was exceptionally low. The total deaths from all causes were 438, a reduction of 16 from the previous week's record, and of 108 from the corresponding week of 1899. The principal causes of death were: Acute intestinal diseases, 121; consumption, 61; heart-diseases, 26; Bright's disease, 20; pneumonia, 18; nervous diseases, 15; cancer, 10. No deaths from sunstroke were reported; 4 suicides and 19 deaths by violence

were reported. The number of births recorded during the week was 565; 288 males and 277 females. The contagious cases reported were 47, of which 22 were scarlatina, 23 diphtheria, and 2 measles. There were 557 samples of milk analyzed by the laboratory of the Department, 5.20 per cent. of which were found below grade.

Smallpox.—Dr. Meyerovitz, a member of the State Board of Health, has investigated an alleged epidemic of smallpox at Chicago Heights, and finds but one case of the disease and 16 cases of scarlatina.

GENERAL.

Living on Fifteen Cents a Day.—A Chicago despatch states that President Harper, of the Chicago University, contemplates trying Miss Katherine Davis' experiment of attempting to live on fifteen cents a day.

British Army Investigation Commission.—It is reported that one of the stormiest scenes of the present session of the Commons occurred last Monday evening, when Mr. Bartlett Burdett-Coutts demanded greater powers for the Hospital Commission to investigate the management of the military hospitals in South Africa. He declared that the truth would not be learned under the present plan of investigation, as the soldiers would be afraid to testify. Mr. Balfour, government leader, in the course of a bitter reply, accused Mr. Burdett-Coutts of "maligning the character of the British Army," and sneered at what he called "the honorable member's evident nervousness as to the result of the inquiry."

American Officer Drowned.—James Stoughton, Past Assistant Surgeon of the United States gunboat "Castine," was drowned at Shanghai August 5th.

Surgeon Hulsby Killed.—A cablegram from Manila announces that Surgeon Frederick W. Hulsby was killed August 1st at Majajay, Luzon. He was from New Haven, Conn., and arrived at Manila about six weeks ago.

The Xiphopagous Twins.—On May 30, 1900, Dr. Chapot Prevost, of Brazil, separated the twins which have been the subject of much medical discussion during the past year. It will be recalled from the descriptions that have appeared in our columns that they were not united by a single band as were the Siamese twins, but their abdominal cavities were connected by a large opening, practically forming one cavity, and the thoracic cavities were also implicated, while the livers were united to nearly their whole extent. On the seventh day after the operation one of the twins died, the other continued to improve without any drawback. An autopsy revealed a state of inflammation of the pleura and pericardium with exudation, while the liver was completely healed.

Cancer in Royal Families.—The announcement of the recent death of the Duke of Edinborough from cancer is followed by the report that his sister, the Dowager Empress Frederick of Germany, is afflicted with the same disease. It will be recalled that her husband, the Emperor Frederick, died of cancer of the larynx.

British Medical Association.—The annual meeting of the British Medical Association opened July 31st at Ipswich. All sections were well attended. The chief interest centered in the navy and army section, where special discussions took place on the treatment of wounded at sea, augmentation of army medical corps in war, first aid, and transport of sick and injured in civil life in large towns, and other important subjects suggested by recent experiences in South Africa.

The Blind in Russia.—There are more than twice as many blind persons in Russia as in the whole of the rest of Europe. They number 190,000, which is equivalent to two in every 1000 of the population. In France and England the proportion is not quite one per 1000.

Artificial Light and the Eyes.—In a German photographic magazine it is stated that the conclusion has been reached by a Russian physician that the electric light is the least injurious to the eyes and that candle-light is the most harmful. He has observed the number of times that the lids are closed under otherwise similar conditions, and states that the oftener the lids are closed the greater the fatigue and consequent injury. As a result of his experiments he compiled the following table showing the number of times a minute the lids were closed with different illuminations: Candle light, 6 4-5; gas, 2 4-5; sun, 2 1-5; electric, 1 4-5.

Sick and Wounded in China.—The Naval Hospital Ship "Solace," with sick and wounded from all arms of the service, has been despatched from Taku for San Francisco. She had on board five marines and navy officers, five army officers, nine navy men, nineteen marines, sixty-five Ninth Infantry. All men will remain aboard, unless otherwise recommended by army medical authorities at Nagasaki or Surgeon Anderson at Yokohama. The Army Hospital-Ship "Relief" is ready to follow the "Solace" when necessary, or to convey the sick and wounded to the base hospital at Nagasaki. The "Maine" is now on her way to China. It is believed that the ocean voyage will so improve the men who are returning that upon their arrival at San Francisco they will be quite in condition to return to the front.

The Plague.—On August 3d 4 cases of plague and 2 deaths from the scourge were reported in London, England. Diagnosis was confirmed by bacteriologic examination. On August 6th a case of the plague was discovered on a vessel in the harbor at Hamburg, Germany. Up to July 14th 300 cases of plague had occurred in Sydney, Australia, of which number 101 died, 51 remained under treatment; 10 of the patients were Chinese, of whom 8 died. The percentage of recoveries from plague among Europeans in Sydney is very satisfactory, more than half of the number attacked having recovered. As in

China, however, the mortality from plague amongst the Chinese in Australia is very high. During the week ending July 23d, 43 cases of plague occurred in Hong Kong, and 44 deaths from the disease. In India cholera and famine are at present attracting more attention than the plague. The last seems waning, but quarantine precautions are none the less imperative.

Yellow Fever.—On August 3d it was reported from Tampa, Florida, that three cases of yellow fever had been discovered there. Two of the patients died, autopsy on one confirming the diagnosis. Strict sanitary and quarantine precautions were promptly taken and no spread of the disease had occurred up to August 7th. The Louisiana board of health has continued its strict quarantine against all Central American fruit vessels carrying passengers. Despite stringent sanitary precautions yellow fever is on the increase at Havana. Forty-eight cases were reported there August 4th and four deaths among the American soldiers at the various camps. Passengers and mails from the fever-infected steamer "Chile" are returning from Valparaiso on the steamer "Peru," and are due at Callao on August 12th. Sixty-seven passengers of the Ward Line steamer "Mexico," which arrived at New York August 7th from Havana, were sent to Hoffman Island for observation.

The Centenary of the Royal College of Surgeons.—The festival ceremonies on this anniversary recently held in London extended over three days and were attended not only by the leading men of England and the British Empire but by eminent surgeons from all the nations of the World. The *British Medical Journal* of July 28th gives an interesting account of the celebration. As an opening exercise a *conversazione* was given in the College, the museum and library being open for inspection. In the former a loan collection of portraits and of historic and personal relics illustrative of the history of the College and its former presidents was exhibited. On Wednesday morning Dr. T. G. Brodie, Director of the Laboratories of the Royal Colleges began a series of lantern demonstrations illustrating the work done in the laboratories. The first demonstration had reference to a research conducted by Dr. Brodie and Dr. W. E. Dixon as to the muscular and vascular mechanisms of the lungs. The investigation, in which an oncometric method was employed, studied the waves of constriction and relaxation of the bronchi, and the action of nerves and drugs on the bronchial musculature. Muscarine caused what was practically an attack of asthma, an effect produced to a greater or less extent by certain other drugs. Atropine produced an opposite effect. With regard to the effect of drugs on the vascular system of the lungs, it was found that any drug which sent up the systemic pressure by producing vasoconstriction caused congestion of the lung. Drugs which acted on the heart to produce a falling pressure relieved the circulation in the lungs if given in small doses, but in larger doses caused congestion. On Thursday a demonstration was given on the action of serum on animals with relation to the action of antitoxic serum. Dr. Brodie observed that it has long been known that the intravascular or subcutaneous injection of serum was by no means a process unattended by risk. Thus an injection of 10 cc. of the serum of the dog, cat, ox, or rabbit leads to the death of a rabbit within forty-eight hours. In studying the physiological action of serum upon the cat, Dr. Brodie found that if an animal were injected with any form of serum, including that of the animal experimented upon, a marked fall in blood-pressure, accompanied by inhibition of the heart and arrest of respiration, occurred. These results follow the injection of about 2 cc. of serum into a vein. The effect was quite absent in an animal in which the vagi were divided in the neck. The result is due to a stimulation of afferent fibers in the vagus acting upon the respiration, cardiac, and vasomotor centers in the medulla, and causing arrest of respiration, inhibition of the heart, and vasodilatation. Experiments showed that the pulmonary fibers of the vagus were those chiefly affected. The cardiac fibers are excited, but to a much less extent. In the next series of experiments it was found that the active substance in the serum was a proteid of the albumin class and not the globulin. It was coagulated by heating to 72° C. Further research showed that the serum was active only when the plasma was clotted in the presence of the corpuscles. It was clear therefore that during coagulation under usual conditions some part was played by the corpuscles. A demonstration was also made of the results of experiments carried out by Dr. Brodie and Dr. A. E. Russell, upon the origin of the fibers in the vagus which cause when excited a reflex inhibition of the heart. It was found that these fibers are not present in the vagus below the origin of the pulmonary fibers; that they are only present in quite small numbers in the cardiac fibers of the vagus, but that they are present in considerable numbers in the pulmonary branches. This was found to be true also for the superior laryngeal nerve, but not for the inferior. Their action was further illustrated by the effect of the inhalation of irritant vapor. Practically any irritant vapor acting upon the lung caused reflexly inhibition of the heart and arrest of respiration. This was found to be the case for ammonia, hydrochloric acid vapor, and chloroform, but the best effects were obtained by bromine or formic aldehyde. Section of the pulmonary branches of the lung completely abolished the effect. On Thursday afternoon in the theater of the old buildings of the University of London the President presented the diploma of Honorary Fellow to the Marquis of Salisbury, the Earl of Rosebery, and among others to distinguished American surgeons whose names appeared in the list published last week.

Obituary.—Dr. Elias S. Peabody, one of the earliest physicians to settle in Illinois, died at his home in Taylorville, Ill., July 20th, aged eighty-seven years. Dr. Peabody was born in Stonington, Conn. His father was a soldier in the Revolution, and his great-grandmother was Elizabeth Starr, said to be the first female child born in New England.

Obstetricians and Gynecologists Jealous.—The unfortunate misunderstanding which has arisen between the Obstetric Society of London and the British Gynecologic Society, in reference to the proposed meeting in London of the International Society of Obstetricians and Gynecologists is still far from a happy solution. Dr. W. J. Sinclair in the *British Medical Journal*, July 7th, offers the following solution of the difficulty: "Let the honorary secretaries of all the existing societies of obstetrics and gynecology in the United Kingdom of Great Britain and Ireland form a Convening Committee to start with. It should be the function of this committee to form a Grand Committee of the members of these societies Each of the societies could send a sufficient number of delegates to a meeting in London or elsewhere, as might be agreed, to elect an Executive Committee or to form an Executive Committee to deal with the question of an international congress and other matters. If from this movement a great comprehensive society, on the model of the German Gynecological Society, were to take shape and development, so much the better." It is certainly to be hoped that some such plan may be adopted and harmony prevail. The two societies are making a most undignified spectacle of themselves by allowing local jealousies to interfere in a matter of international interest and importance.

The Serum Treatment of Yellow Fever.—Reports from Vera Cruz announce that Dr. Bellinzaghi is meeting with most flattering success in the administration of his serum to patients in all stages of the disease.

Woman Coroner in Kansas.—Miss Lillian E Hall of Winfield, Kan., lately appointed Coroner of Cowley County by Gov. Stanley, has entered upon the discharge of her duties, although it has not yet been her lot to officiate at an inquest Miss Hall is twenty-six years old and a native of Cowley County. For three years she was a stenographer in the Coroner's office.

Marriage Bells at Manila.—Promptly at twelve o'clock on June 1st, as the Cathedral chimes rang out their noon hour, followed by the hundreds of Manila's old Spanish bells, Dr. Henry Page and Edith Longfellow Greenleaf, daughter of Colonel Greenleaf, Chief Surgeon of the Department of the Philippines, were united in wedlock, at the residence of the bride's parents on Calle Mozaleda. Flags representing the different branches of the service, and numerous varieties of palms tastefully arranged about the reception rooms, formed the most appropriate and coolest decoration. Shortly after the ceremony the happy couple drove to the launch landing on the Pasig River and went aboard the transport "Sumner," which sailed the same afternoon for Japan.—*Army and Navy Journal.*

Organization of Cuba's Charities.—A comprehensive decree, covering the subject of public charities in Cuba, was recently promulgated by Gen. Wood, and went into effect on August 1st. The decree creates an Insular Department of Charities, provides for a Board of Charities, and defines its powers and duties, reorganizes several local institutions as State institutions, and establishes under the Department of Charities a Bureau for Placing-Out Children. At the head of the Department of Charities is to be a Board of Charities composed of eleven members —one from each of the six provinces and five from the island at large. The members of the Board are to serve without salary and for a term of six years each after the first appointments, the first appointments being made for terms varying from one to six years. Appointments of members of the Board whose terms of office may extend beyond the period of military occupation are to be subject to the approval of the Government which shall follow. No general system of poorhouses and no system of public out-door relief is included in this decree. No general public relief system of this character has heretofore been in existence, and its establishment is deemed to be wholly inadvisable. All children who become public charges are to be cared for by the State, and are to be regarded as wards of the State. Existing municipal institutions for children, of which there are a number, are to be gradually discontinued, the children being either placed in families by the officers of the Department of Charities or removed to a central State institution. After September 1st payments to private institutions are to be made on a per-capita basis, and are to be discontinued as rapidly as the State can provide for the children in families or in its own training-schools. This course already has been successfully pursued in the case of the asylums established by the Red Cross Society in 1898 and 1899 and turned over to the insular Government in April last. Of the sixteen asylums, which had a total census of 650 in March last, twelve have already been closed, the children being provided for without difficulty, being, with very few exceptions, either placed with their relatives, or in other families. A Bureau for Placing-Out Children is established as a part of the Department of Charities. Four State institutions are provided—one for destitute boys, one for destitute girls, one for wayward or criminal boys, and one for wayward girls. Only two of these are to be new institutions. The Industrial School for Girls, established by the Military Department of Havana last year, is organized as a State Training-School for Girls. An existing reformatory, heretofore managed by the municipality of Havana, is taken over by the State, and reor-

ganized as a State Reform School for Boys. A State Agricultural School for Boys is being established at Santiago de Los Vegas, and a State Reform School for Girls has recently been opened. From all of these institutions, children, after receiving training, are to be placed-out in families by the Bureau of Placing-Out Children.

The India Famine Fund.—The New York fund for the relief of suffering in India amounted July 23d to $160,581.90.

Burning Cholera Dead.—Mr. W. Mulligan of the I. P. Jurge Tribes Mission, Johlod, Pauch Mahals, India, writes: "The death wave (cholera) is passing over. Government relief measures have been more effective of late. The neighboring States continue to pour in their incurables. Daily the huge pyre is built and dozens of bodies are reduced to ashes as the daylight fades. The fires of hell are brought to my mind. Thirty-eight bodies were being cremated as I looked at it to-day (June 23d)." This sanitary measure of cremation is gradually commending itself to the nations of the West. It has proved most salutary to the countries of India.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, August 1, 1900.

THE DECAY OF THE TEETH—ARSENIC AS AN IMPURITY OF PHOSPHATE OF SODA—THE ARMY HOSPITAL SCANDAL IN SOUTH AFRICA—DEFENCE OF THE DIRECTOR GENERAL—ROYAL COLLEGE OF SURGEONS CENTENARY—DANGERS OF CIRCUMCISION.

THE report of the Committee appointed by the British Medical Association to investigate the decay of the teeth contains a large mass of statistics of which some are interesting. Those referring to children are largely based on the reports of the Committee appointed by the British Dental Association in 1890 to investigate the condition of the teeth among school children. In 4062 children aged from five to nineteen years the number of carious teeth were 10,330. Only 215 had perfectly sound dentitions. The tooth-brush was not used in the majority of cases and very few teeth were clean. But in a few schools some children's teeth were described as remarkably clean though the brush was never used. Possibly the mastication required by the tough meat supplied is the explanation. The percentage ratio of carious teeth rose from 53 at the age of six years to 271 at twelve and 300 at fourteen. The teeth of well-to-do children seemed more prone to decay than those of poor children. Examinations of children in Germany, Switzerland, Hungary and Sweden gave similar results. In Stockholm only 10.87 per cent. of the children between the ages of six and sixteen had sound dentitions. Few statistics are available as regards the condition of the teeth in adults. In 1887 Mr. Cunningham of Cambridge found that candidates at a London recruiting-station had lost on an average 3.36 teeth and had 4.09 carious teeth capable of preservation, making a total of 7.45 defective teeth per man; 64 per cent. required scaling; 70 per cent. suffered from inflamed and ulcerated gums; 27 per cent. had one or more chronic abscesses in the mouth. A report of the Army Medical Department for 1890 states that of 55,673 recruits examined 506 (or rather less than 1 per cent.) were rejected on account of defective teeth. How far is civilization responsible for the decay of the teeth? Mr. G. R. Mummery examined all the available skulls in the Royal College of Surgeons, as well as those in several private collections. The ancient British graves in Wiltshire best illustrate the condition of the teeth of the early Britons. In 68 skulls one case of decay on the proximal surface and one on the grinding surface were noticed. In 76 Anglo-Saxon skulls dental caries was found in 12. Turning to existing primitive people, the Esquimaux are almost purely carnivorous. In 69 skulls of this race the teeth were frequently much worn down on the grinding surface, but only one carious tooth was found.

An extraordinary case has just been heard in the police court in which a chemist was prosecuted for selling a drug known as effervescent phosphate of soda, used for making popular effervescent drinks, which contained in one case 8¾ and in another 3½ grains of white arsenic to the pound. The defendant pleaded that he did not know and had no reason to suspect the presence of arsenic and also that he bought the drug in the same state as he sold it and with a written warranty to that effect. Another point made by the defendant was that for some unaccountable reason no warning was contained in the British Pharmacopœia that arsenic might be looked for among the impurities of phosphate of soda. The evidence went to show that the preparation was of American origin and had been used in this country since 1871. Fortunately there was not a great sale for it. The analyst stated that the presence of arsenic in phosphate of soda was a revelation to him, but that since his attention had been drawn to it he had examined 21 samples and found arsenic in all. No doubt the poison was introduced in the sulphuric acid used in the manufacture of sodium phosphate, as arsenic is one of the recognized impurities of the acid. The magistrate decided that the defence of ignorance did not remove the legal responsibility of the defendants and only mitigated the penalty. The general guarantee of the wholesale house from whom the drug was bought, that all preparations "will stand the required tests of the British Pharmacopœia," he put aside as not sufficiently specific. He imposed a fine of $50 and $25 costs. So much for the boasted common sense of English law. The magistrate absurdly contended

that liability of the chemist was necessary for the protection of the public. It does not require much intelligence to see that the real culprits are the manufacturers. All that should be required of a retail chemist is reasonable skill and care in the sale of drugs. He cannot possibly analyze every drug he sells.

At the dinner of the Epidemiological Society, Surgeon-General Jameson, Director General of the Army Medical Department, made a very spirited defence against the recent charges of Mr. Burdett-Coutts which I have previously stated. He referred to the commendations of the Army Medical Department by Sir William MacCormac, Mr. Treves, Sir Redvers Buller, Lord Roberts, and last, but not least, by the German medical attachés, who, when asked on their return to England whether they had any improvements to suggest, replied, "We have nothing to suggest." His duty was to provide beds for ten per cent. of the 200,000 men in South Africa. He provided a personnel sufficient for those beds, over 8000 men and women. He furnished the equipment so liberally that on several occasions he was asked to send no more. He had just received a telegram, "Send no more base hospitals." War was full of matters which could not be anticipated. Could any man have prophesied that the Modder River would become full of dead Boers, some of whom had suffered from typhoid fever; that the water-supply of Bloemfontein would be cut off; that a large convoy of stores would be captured, and that the whole line of railway, 1000 miles long, would be unsecured and broken in places? Not only did the men in hospital suffer, but also the men out of hospital. Men were living on three biscuits and a pint and a half of dirty water a day. To preserve the Army it was necessary to supply food and hospital supplies had to be excluded for the moment.

Sir William MacCormac has been unanimously reelected President of the Royal College of Surgeons for the fifth time. Mr. J. Langton and Mr. Henry Morris have been appointed Vice-Presidents.

In the *Polyclinic* Mr. Jonathan Hutchinson calls attention to the dangers of circumcision. It is not easy to get at the facts which are alleged to be in most instances concealed. Some years ago a considerable group of cases of syphilitic inoculation occurred in the practice of a professional circumsizer (not a surgeon). Several were severe and more than one fatal. They were the result of carelessness. The operator was accustomed to put the removed prepuce into his box under the lint used for the next case. It is said that several infants have died within a few days of circumcision with gangrene of the penis and adjacent parts. Hemorrhage is a well-known risk of the operation performed by house-surgeons, but it does not seem to occur with Jewish operators, for they never cut mucous membrane and avoid the frenum. When mucous membrane is removed the surgeon should be enjoined to tie the frenal vessels. If he does not there may be recurring hemorrhage in a few hours which may prove fatal. Perhaps it would be an advantage if the surgical were approximated to the ritual operation, and more skin and less mucous membrane were removed, although at the cost of some neatness in the immediate result.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

TUBERCULOUS PERITONITIS—ECTOPIC GESTATION — INHALATION AND INGESTION — SPLENIC FEVER—OTITIS MEDIA—TENDON-TRANSPLANTATION—TREATMENT OF THE UMBILICAL CORD—TUMORS OF THE GENITO-URINARY TRACT—RESTORATION OF MUCOUS MEMBRANE—ARTIFICIAL INFANT-FEEDING.

BENDIX at the Society for Internal Medicine in Berlin, at the meeting of June 18th, said that the agglutination of tubercle bacilli by the serum of the suspected cases of tuberculous peritonitis is a good diagnostic sign.

LITTEN pointed out that formerly all exudative peritonitis was called tuberculous; now, knowing that simple inflammation of this serosa may be exudative or cellular, the earlier position has been abandoned. He has noticed rheumatic peritonitis, just as rheumatism may affect the other serous membranes. Friction sounds were apparent. All the symptoms disappeared under suitable treatment, chiefly salicylates.

BAGINSKY said that modern surgical results have won him to have more confidence in the surgical treatment of these cases, but he still believes that many of these patients can be cured medicinally. The chief aim is as positive a diagnosis as possible. The feeling of cheesy masses is perhaps the best means of diagnosis.

LEYDEN said he valued the operative treatment less than he did formerly, perhaps less than many still do. He desired to make definite his views as to the various wild hypotheses as to this disease and its apparent cure by operation. The cure of a case by operation under Spencer Wells was in every likelihood an instance of mistaken diagnosis and occurred at a time when all tuberculous inflammation was regarded as fatal and when tubercular peritonitis was not recognized except at autopsy. This disease is clinically analogous to tuberculous pleurisy and like it often undergoes spontaneous cure. One difference is present, namely, the disease may involve the intestines, then giving a bad prognosis. When this similarity comes to be accepted he thought the treatment would be alike, namely, lateral puncture. He felt that laparotomy and thoracotomy both give poor results. For diagnosis, he thinks injections of animals, tuberculin reaction and serum agglutination, each open to grave error. But these all help and with a good history and physical examination, perhaps discovery of cheesy deposits, make diagnosis easy.

FRAENKEL said that in the hospitals where medicinal and surgical cases can be brought to bear on this subject as adjuvants or separately, he had come to conclusions divergent from Leyden's. Tuberculous pleuritis and peritonitis are widely different prognostically. Puncture may succeed in each, often does in pleurisy, seldom in peritonitis, often does harm in peritonitis and then necessitates operation. Operation at the outset, he considers better treatment. Experimental injection of tuberculin he thought hazardous in these cases, whether new or old tuberculin be used. The inoculation of animals is the best diagnostic step.

HERZFELD, HEUBNER and KAREWSKY all defended the primary operation as treatment.

ROOSE at the session of the Aerztlicher Verein, in Hamburg, on June 12th, declared that no rule can be fixed as to when the operation should be done for a ruptured ectopic gestation. In some instances one must wait for the initial shock to pass off; in others one must proceed at once; in a third category it is necessary to take the patient to a hospital for the sake of good surroundings; in a fourth class the treatment begins on the spot irrespective of external circumstances.

RIECK and KUEMMELL believe in early operation and prefer the vaginal approach.

FRAENKEL showed slide-preparations from a case of splenic fever due to inhalation and ingestion of the germs, and reported the details of the history as follows: Male, thirty-five years of age, admitted June 5th with delirium; death and autopsy June 6th. The clinical facts are meager, being excited, active delirium and very feeble pulse, which yielded to camphor stimulation, but death came very suddenly. The autopsy peculiarities were extraordinary facial cyanosis; no peritonitis, but a turbid fluid in the abdominal cavity; at the hilum of the left lung was an enlargement of lymph-nodes to the size of an egg pressing upon the upper and anterior aspect of the root of the lung, and in addition a bilateral hemorrhagic effusion into the thoracic cavity; the upper part of the jejunum presented several dark-red, doughy hemorrhagic masses, and in the mesentery the vessels were empty, but the lymph-glands were recently swollen, dark-colored and on section hemorrhagic. The lining of the intestines presented in the neighborhood of the folds deep-red superficially-eroded enlargements with edema of the mucosa round about. Analogous areas were to be found in the stomach, still further confirming the diagnosis of anthrax. Smear preparations which gave the anthrax bacillus together with the macroscopic and microscopic features of the spleen confirmed the diagnosis. The case appeared in virtue of the distribution of the lesions clearly one of inhalation and ingestion anthrax. The fact of the poison having been inhaled was further established by the existence of a fibrinous bronchitis in the affected lung in some of the bronchi where from the false membrane the bacilli were easily obtained. Again, the spread of the disease through the stomach and the intestines also gave proof of gastrointestinal attack. The situation was cleared up by learning that the patient was a warehouse laborer and had worked among dried hides and hair. The source of the infection was therefore clear.

SCHEIBE, at the Aerztlicher Verein, Munich, February 14th, reviewed a case of middle-ear suppuration, distinguished for its intricacies of diagnosis and pathology. The following notes are the history in brief: Female, aged sixty-one years; diabetic; for four weeks had suffered with persistent suppurative otitis media with free discharge; admitted to the hospital complaining of constantly-increasing left-sided headache, the mastoid was opened in spite of her diabetes; the bone was not necrotic; the cells were partially filled with pus and the antrum with granulations; the sinus transversus was not inflamed or thrombosed; the wound healed quickly by granulation; persistence of the discharge; continuation and increase of the headache; no other cerebral signs; sixteen days after the operation moderate rise of temperature; slight declining pains and tenderness over the mastoid and jugular; ten weeks after the onset of the disease, four weeks subsequent to the operation, amnesic aphasia appeared for such words as "hey," although its use could be described; repetition of the spoken word, possible at first, also soon disappeared, together with ability to carry out definite directions; no further cerebral signs; fundus oculi still normal; pulse rapid; no paresis or paralysis of the eye-muscles; no disturbances of sensation or motion; spleen not enlarged; urine abundant in sugar and acetone; diagnosis, abscess of left temporal cerebral lobe, secondary to otitis media suppurativa. Exploration for pus failed, and two days later death ensued accompanied by coma and slow respiration. At the autopsy no abscess was found, but a hemorrhage, in the condition of softening, in the temporal lobe, surrounded by a large zone of broken-down brain tissue, punctate capillary hemorrhage and thrombosed pial veins; extensive inflammation and mural thrombotic deposits in the sinuses, especially in the transverse nearby to the confluent, in the sigmoid, in the petrosus inferior and in the cavernous; the jugular vein for a distance of four cm. was also similarly affected; pus in the same situations. It is remarkable that such extensive suppuration should have given so few symptoms. Chills ushered in the disease, but the temperature for four weeks had remained almost flat. There was tenderness over the mastoid, also over the vein, but no cord-like thickening of the vein. No metastases were present. The temporal bone contained one large, deeply-seated, inaccessible air-cell just beneath the sigmoid sinus, filled with and probably productive of the purulent discharge externally and of the pus internally. The pus had probably contributed to the hemorrhage also. No bone necrosis was present, as is so usual with diabetes.

BEZOLD, in discussing the case, said it is an

illustration of the fearful ravages a middle-ear disease may cause and of the important rôle the mastoid cells play therein.

TAUSCH, in discussing a paper by Lange on tendon surgery in orthopedics, said that the development of the technic of tendon-transplantation and treatment in the management of deformity is an important advance. The fixation of plaster splints produces atrophy of muscles not lamed, often results most unfavorably, and should always be replaced by a tendon operation when possible. Even in these cases he himself leaves the correcting plaster splint in only four or five weeks, then uses elastic splints, and early adds to the treatment massage, electricity, passive motion by hand or device and, finally, carefully-planned and executed walking exercises.

MORITZ said the physiological explanation of the fact that the functions of the peronei can be largely made up by the tendon of the tibialis anticus, split and one-half carried to the outer border of the foot, lies in the nerve-supply. Most certainly so large a muscle as the tibialis anticus is supplied by a large group of cerebral cells, normally acting together. Under the new condition of transplanted tendon the cells gradually and to a greater and less extent accommodated themselves and compensated for the last peronei.

RIECK at the Greifswalder Medicinischer Verein, March 10th, explained a new and very successful method of treating the umbilical cord in the newly-born. Close to the navel it is tightly tied with silk and then the stump burnt down to the ligature with the actual cautery. The method shortens the healing to three or four days and prevents infection.

BUSSE, May 5th, exhibited a fine collection of tumors of the major urinary channels and established the conclusion that no one can estimate the nature of the growth from shreds, with definiteness, because in sarcoma, carcinoma and fibroma, the shreds themselves may be closely alike. It is the bases of the tumors which are diagnostic and not, as a rule, the papillary outgrowths. Two interesting histories were read, each of a man about fifty-five years old and afflicted for many years, in one twenty, in the other seven years. The recurrence of bloody urine became more and more frequent and, finally, the onset of severe lumbar pain brought each man to the hospital. Each had an enormous hydronephrosis. One case showed right-side lesions as follows: A very large thick-walled hydronephrotic renal pelvis which with the ureter was studded thickly with benign papillary tufts. The right half of the bladder was in a similar condition. The other patient showed the same kidney and ureter lesions, but the bladder had been invaded by a diffuse carcinoma.

GRAWITZ reviewed the histological details of the growth of new mucous membrane. A child had had a tracheal defect covered by a piece of cartilage taken from the sternum. Death occurred six weeks later and the remnant of the cartilage was found in a layer of dense scar. This scar was partly covered by new mucous membrane which was sending epithelium down into the crypts and crevices of a looser layer on the surface. The case demonstrates that the mucous membrane may grow from without, unlike the uterine from within and the skin in bed-sores from the sides and within. The nearer the normal mucosa the more closely did these new tissues resemble the old.

C. FRAENKEL, at the Verein der Aerzte in Halle a. S., May 16th, said that all infant-feeding depends upon our knowledge of the digestive capacity of the child. The saliva lacks diastose and the gastric secretion acid; hence, the coagulation of albumin depends on rennet and there is little to combat germs which may enter with the food. In the adult this function is performed by the hydrochloric acid. Hence, it happens that food may be imperfectly digested and pass into the intestinal canal where it may set up almost any form or degree of intestinal trouble. The indications in artificial feeding are therefore an easily-assimilable, non-irritating and germ-free food. The model for all our foods should be human milk. The best substitute for this is cow's milk suitably modified. The differences between the two rest on qualitative and quantitative chemical and also bacteriological differences. Woman's milk contains (1) much less albumin than does cow's milk and, indeed, much less than the 2 per cent. formerly set down as normal. Recent careful examinations show that about 1 per cent. is the total albumin; (2) much less sugar; (3) less mineral salts. Qualitatively, the differences are still more important, because human-milk albumin is four-tenths true albumin and six-tenths casein, while in cow's milk the former is one-tenth and the latter nine-tenths. The albumin and casein in human milk are further so constituted as to be vastly more easily digestible and coagulate in fine, delicate masses. Again, a similar degree of difference obtains between the salts and the derivatives (nucleins and lecithins) which likewise deserves consideration. In about one-half the cases there are a few bacteria in woman's milk, but in cow's milk there are many. The former are commonly harmless, the latter often are pathogenic. In order to correct these differences several needs have been made (1) to make the cow's milk synthetically the same as woman's milk on the basis of the percentage of each constituent; (2) to increase the digestibility of the cow's casein, and (3) to destroy the germs in the cow's milk. For the first purpose the time-honored dilution with water is available, but according to some authorities this adds so much non-nutritious matter that it becomes an undesirable method. Accordingly, two authorities have suggested the dilution of the milk with sugar of milk. Soxhlet therefore recommends 2 parts of cow's milk to 1 part of 12 3/10 per cent. sugar-of-milk solution; while Heubner-Hoffmann advises 1 part cow's milk to 1 part of 6 9/10 per cent. solution of milk-sugar. The

lack of the proper proportion of fat in milk so changed is to be supplied by carbohydrates dynamically proportioned, but even this is not always satisfactory. The best-known standards for this are Biedert's cream-milk and Gärtner's fat-milk modifications. In order to make the cow's casein more digestible various difficult formulas for proceeding have been suggested. Theoretically these are all right and certainly founded on scientific proper basis, but are unfortunately beyond the ability of the average private family. Voltmer's mother's milk and Backhaus' children's milk are both excellent examples. The latter is especially meritorious but has the disadvantage of difficulty and expense. For the cleansing of milk various procedures have all been advocated: Greater cleanliness in producing and storing, dry-feeding, centrifugal treatment, etc. Finally, the actual sterilizing heat has been applied, both with a view to destroying the pathogenic and other germs. Since oftentimes these may be of the very resistent type which withstand actual boiling for even some time, the milk either remains infected by them or is sterilized but deprived of much of its nutrition. Nevertheless the so-called Pasteurizing of milk will render it practically sterile and still not damage its use as a food. In Scandinavia such milk is rapidly and artificially cooled, short of freezing, rendered more permanent and capable of being transported greater distances. But often in spite of both methods combined, milk will curdle in the temperature of the ordinary room in summer. The reason is that many of the germs derived from hay, animals, feces, etc., become mixed with the milk and are of the varieties which withstand for hours the temperature of boiling-water without damage.

The suggestion has been made that the sterilizing of milk on a large scale would be an advantage, when various steam apparatus would be brought into play for it. Resuming this topic at the meeting of May 30th, Fraenckel went on to say that in the actual sterilizing of milk several things must be guarded against: (1) Color and taste must be changed as little as possible. With care the degree is indeed slight to which this may go so as to be nearly without influence, but, on the other hand, it may entirely spoil the stock. (2) Flügge in a laborious article has demonstrated that milk may contain several varieties of germs which are derived from hay, feces, and potatoes, are innocuous at low, but active at high, temperatures. The "proteolytes" change the albumins into peptones and albumoses and various more or less noxious byproducts. Hence, he goes to the extreme and recommends that sterilizing be abandoned lest at any time such poisoned milk be fed to a child. But this is an exaggeration, because in many hundred observations upon this point, the author found it only five times and then noticed a taste so peculiar and bitter that any child would decline it. With this safeguard in mind sterilizing may be continued. (3) Profound chemical changes may originate through sterilizing. Albumin coagulates, fat comes out of emulsion, sugar becomes caramel, lecithin and nuclein split up, and the proportion of soluble salts is changed. On all these accounts digestibility may be impaired and various diseases initiated, scorbutus, Barlow's disease, etc. But these may arise in the breast-fed and in many clinics where carefully-sterilized milk is properly fed are seen very rarely. Hence, the changes may be absent or disregarded when suitable sterilizing is done. (4) The cost of the milk is somewhat increased, but not out of proportion to the service done and the real value of a sterile milk. Here philanthropy comes in to put into the unintelligent poor facilities for the normal feeding of their children. In conclusion, the speaker rested upon the following points: Cow's milk, from healthy animals, clean in its production and strong, suitably sterilized, then diluted in the right proportions, makes the best possible substitute for human milk. The results obtained with it are better than those obtained with any of the more ornate and complicated artificial foods. These are divisible into two great classes, the albumins and the carbohydrates. The former are made up of many which really contain milk, albumin extractives such as nutrose, encasin, sanatogen, sauose and plasmon. They may also be derived from egg-albumin and nut- and plant-albumin, among which are Lahmann's vegetable milk and Rieth's and Pfund's albumose milk. Under the catalogue of carbohydrate foods belong many of which Nestlé's, Kufeke's, Muffler's, Mellins, Theinhardt's, Liebig's and Opel's, are best known. The conversion of the starch of these into dextrin makes them more easily digestible, for the young child cannot digest starch as such. All these have their uses alike in the healthy and the sick child, but must each for itself be selected for the individual.

In the discussion POTT said the daily weight of a suckling is the only means of gauging its progress. Variations in diet according to its weight seem to be the sole means of regulating artificial feeding. While sterile, modified milk is the best single substitute for mother's milk, it must not be forgotten that Barlow's disease has been far more prevalent since its general use than before.

KLAUTSCH said that the use of milk from certain cows gave him best results and the rubber cap for bottles devised by Ollendorf made the tightest closing device.

FEHLING emphasized the fact that during lactation the milk often varies normally and sometimes within twenty-four hours he has seen great changes.

A Prolific Birth.—Recent visitors to Atlantic City will recall the aquarium tank on the iron pier and be interested in the event that occurred there this week. A fine seahorse had been captured and placed in the aquarium. During the night it gave birth to 1000 baby seahorses.

SOCIETY PROCEEDINGS.

FIRST INTERNATIONAL CONGRESS OF THE MEDICAL PRESS.

Held at Paris, July 26, 27 and 28, 1900.

[Cable Report from Our Special Representative.]

FIRST DAY—JULY 26TH.

THE first session was held in the Press pavilion on the grounds of the Exposition. The features of this first session were the addresses of welcome by the Minister of Commerce, in whose department comes the management of all the affairs of the Exposition, and the address by the dean of the World's Medical Press, Prof. Virchow, of Berlin, whose *Archives* is now approaching its sixtieth year under his continuous editorship. Prof. Virchow said it had been a desire very near to his heart from the earliest years of his medical career to see the medical editors of the world united. He congratulated the Committee of Organization in effecting at last a movement that is sure to be of the greatest service to medicine and to mankind. After the meeting the members of the Congress proceeded down the Seine in a special boat and were received by the President of the Municipal Council of Paris and the Prefect of Police.

SECOND DAY—JULY 27TH.

Held in the School of Medicine.

The papers of general interest were as follows:

Medical Indexes.—Dr. Marcel Baudoin, the director of the International Institute of Scientific Bibliography, discussed the subject of indexes for medical journals. Indexes should be so made that they can be consulted by any medical man no matter what language he speaks. Dr. Baudoin suggests the use of a decimal system of classification of subjects somewhat like that now in use in most libraries of the world instead of the cumbersome alphabetical system at present employed. Great improvement over the present methods in facility of consultation can be obtained by this means. There is danger that the bibliographical theorists may attempt to carry the system into too great detail and so make it impracticable.

Number of Medical Articles.—Prof. Richet of the University of Paris said that in the Index Catalogue of the United States Surgeon-General's Library about 1,100,000 titles of medical essays were enumerated. This catalogue is now twenty years old for the most part, and the number of separate medical articles has now undoubtedly risen to over 3,000,000. With the present system of classification it is impossible to consult such a list as this with any satisfaction. By using the decimal librarian system of classification the consultation could be greatly simplified. One could recall the numbers of subjects in which he is especially interested as readily as he does his telephone number. The grouping by numbers would soon be understood and the present practically insuperable difficulty be overcome.

Medical Advertising.—A very interesting discussion then took place as to the class of medical advertisements that should be admitted into the columns of a medical journal. It was generally agreed that no remedy which is advertised in the daily newspapers should be allowed space in the columns of a medical journal. When a resolution declaring that no medical journal should accept such advertising matter was proposed it was robbed of all significance by amendments. As to the question of the admission of advertisements to the "reading" columns of a medical journal, the same agreement as to the ethical theory was evident, but it was thought better to leave the matter entirely to the editor of the journal until advance in the ethical spirit shall gradually eliminate it.

THIRD DAY—JULY 28TH.

Medical Anonymity.—A very interesting discussion of the question whether a medical man should ever use his title of doctor with a *nom de plume* occupied the morning. There is question, at least in France, whether it is not a violation of the law regulating the practice of medicine to use any but one's real name with the title of doctor. A resolution was adopted to the effect that it was the sense of the First International Congress of the Medical Press that the laws of the different countries should forbid the use of any other name than that on the medical diploma that granted the title of doctor.

Interesting discussions were also held as to the questions of the ownership of articles that have appeared in the medical press, the duty of giving credit, etc. It was resolved that in all cases of quotation either the name of the author or the medical journal, or both, should be given, and this was construed as referring also to society proceedings and other such matter. When photographs and especially skiagraphs are retouched it was the sense of members that that fact should always be mentioned.

The next International Congress of the Medical Press will be held in Brussels next year. The date will be decided by the Bureau of Organization of the Congress of which Prof. Cornil is president and Dr. Blondel the secretary general.

The medical press of the world was very well represented at this First International Congress of the Medical Press. It was held under the auspices of the Association of the French Medical Press and practically all of the prominent French medical journals sent representatives. The Italian journals of the large cities were well represented. Virchow, Posner and Ewald of Berlin were present. Fraenkel of Vienna, Spatz of Munich, Hansen of Norway, Ehlers of Copenhagen, Tigerstedt of Stockholm, Podwyssotski of Kiev, Jannesen of Bucharest and representa-

tives of the *British Medical Journal*, the *London Lancet*, the *American Medical Journalist* and the NEW YORK MEDICAL NEWS.

THIRTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

Held at Paris, August 2-9, 1900.

GENERAL SESSION.

FIRST DAY—AUGUST 2D.

THE first general session was held in the Salle des Fêtes of the Universal Exposition. The President of the French Republic, M. Loubet, was unable to be present and sent his regrets.

PRESIDENT'S ADDRESS.

Prof. Lannelongue, the President of the Congress, then made the opening address. He said that the large attendance was a sign of the great interest which medical matters are assuming at the present time and especially of the importance that attaches to this triennial assemblage of the doctors of the world. Here nationalities fade before the all-absorbing desire to benefit the entire human race. Only two things are asked for, freedom of research and liberty to pursue the truth. On the threshold of a new century it is at once stimulating and encouraging to find the widespread interest in things medical that exists within and without the medical profession. From being members of a guild who merely treat the symptoms of ailing humanity, physicians have now become students and scientific investigators of everything that relates to man's welfare and improvement in his health. It is only just that this improvement in the status of medical men should be acknowledged by the world in general. For the broader studies of these later times intercommunication of ideas is especially necessary if advance would be made. For this purpose such general assemblies as the present are especially important. Absolutely new discoveries are very few. What are thought to be discoveries are really the results of many small steps of progress the relations of which are not recognized until the master mind arrives on the scene to correlate and synthesize them. For rapid advance it is necessary for thinkers who are most widely separate to be in touch with one another's thoughts as well as with the completed work. They must keep themselves acquainted with the general direction of all new lines of investigation. Two things are necessary in order to make investigations into medical subjects more scientific and less liable to error. First, the more general use of instruments of precision in diagnosis, and, second, the invention of new diagnostic instruments. It is well known how liable to error are all means dependent on human sensations. The thermometer has done a great deal to make diagnosis more exact. We need new instruments that will record the condition, the shape, and the size of internal organs and so eradicate many sources of error in physical diagnosis. Our present nomenclature in the medical sciences does not represent the present state of our knowledge of medicine and besides is a source of very great confusion to the student. It is especially during a Congress like the present when authorities are assembled from all over the world that some means of correcting this very serious defect in our medical nomenclature can be considered. As President of the Thirteenth International Congress it is one of the subjects that it seems to me should especially be called to your attention.

Then Prof. Lannelongue called attention to the fact that the first International Medical Congress was held in Paris on the occasion of a great Exposition and that it was very fitting that the last International Medical Congress of the century should also be held in Paris during another great Exposition. Each one of the thirteen sessions has shown an increase in the interest manifested in the Congress, and the present one can be said to represent very completely the medical profession of the world. The success of the present Congress is due to the untiring efforts of the Executive Committee, to the good-will of the University of Paris, and to the generous and liberal-minded assistance of the Government of France.

The Secretary, Prof. A. Chauffard, next read his report which was in a large degree statistical.

Sympathy for Italy.—The Congress passed resolutions expressive of the sympathy of the delegates for a sister nation in this hour of her deep affliction. The President of the Congress sent through Prof. Bacelli a telegram of condolence to His Majesty the King of Italy. All fêtes were postponed until after the obsequies except the one at the Luxembourg on Monday, the 6th.

Attendance.—Six thousand two hundred doctors registered as in attendance upon the Congress. These were divided among the following nationalities: France, 2300; Russia, 820; Germany, 580; England, 225; and the United States, 420. The weather was cool and the daily attendance large and representative.

PROFESSOR VIRCHOW'S ADDRESS.

After the addresses of the delegates from the various countries Prof. Virchow, the father of cellular pathology and by that the great pioneer in modern scientific medicine, opened the scientific work of the Congress. His appearance on the platform, hale and hearty despite his almost eighty years, was the occasion for a most notable reception.

Traumatism and Infection.—He said that his nearly sixty years of active investigation of medical subjects gave him perhaps some right to speak before the representatives of the medical profession of the world on this much-disputed question. Even in our day the problem as to

whether the injury to the tissues or the presence of microbes is the most important factor in the production of suppuration remains yet unsettled. Since the discovery of the rôle played by microbes generally in pathological processes it has become too much the custom to attribute everything to microbes. The injury to cellular tissues by the trauma and the degenerative processes that may result therefrom are too much neglected. Fortunately a reaction has set in during these last few years and the lowering of the resistive vitality of the tissues is becoming more generally recognized as an important etiological element in permitting the establishment of suppurative changes. This question is not merely theoretic but is eminently practical and it concerns not alone the doctrine of trauma but nearly every pathological process that may declare itself in the tissues. Even matters of serious import in everyday life may be involved in the point of view taken on this question. An injury to a bone, for instance, although without the production of an open wound, may result in osteomyelitis which will require surgical relief, or, if the phlegmonous process is allowed to spread, may result in death. The medicolegal question of responsibility for the death in such cases may be a most difficult one to decide. If the injury, for example, is inflicted on the head and an abscess of the brain results, it is a very delicate question whether the inflicter of the injury is the direct cause of death. In these cases there are even eminent surgeons who claim that the small cutaneous wound made at the time of the injury may suffice for the entrance of the microbes. There are others who claim that microbes are often inoffensively present in the circulation in health, but become virulent when tissues are lowered in resistance by trauma. These considerations are evidently pure inventions and have no foundation in reality. We have had too much theory in such matters and only too often has possibility been taken for actuality by some ardent theorist who thought that the facts of Nature could be better explained by sitting down and thinking them out than by long hours of observation. More patient investigation is needed and less theorizing. Human nature is impatient and will not wait for actual results. It must be trained to wait, for unfounded theory does great harm and hinders progress. Progress is discouragingly slow. Looking back on sixty years of work, it is surprising how little advance has been made and how many times the pendulum of medical opinion has swung to and fro, now on one side, now on the other of the line that divides great medical questions.

Non-Microbic Changes of Tissues.—In the present-day rage for explaining everything as due to microbes, it is well to remember that we know a number of changes that may take place in tissues apart from any microbic influence. When an injury is inflicted, cells are often directly and immediately killed or die as the result of the injury. Now, certain changes invariably take place in these conditions. First, dead tissues can no longer retain their water; they give it up to surrounding tissues and so become inspissated. After inspissation, such changes as petrification or caseation may take place. Long ago Virchow showed how dead tissues were affected by the study of such parasites within the body as the trichina or the cysticercus. When the parasite dies, just the same series of changes are instituted in their dead bodies as if they were dead human tissue in the midst of living cells. First, they lose their water; then very often they become calcified. It was the calcified trichinæ that Leidy, the American anatomist, first described. When a human fetus dies and is retained for some reason, a corresponding series of changes take place, lithopedion, *i. e.*, a calcified fetus often results.

Direct Cell Destruction.—When poisons destroy cells there can be no question of the intermediation of microbic influence and so we hear nothing of it. It must be remembered that trauma may directly kill cells in almost the same way or may so weaken them that they die. There is no need to appeal to microbic influence as often as it is the custom to do at present. Sterile pus, that is, pus without microbes, has been shown to exist. When trauma has taken place, give its full etiological significance. Where medicolegal complications ensue from trauma, if suppuration has intervened do not appeal entirely to microbes, but weigh the question well and decide which, injury or germs of suppuration, has been of most import in the subsequent course of the case. This judicial state of mind is eminently scientific in the present state of our knowledge. Jumping to a conclusion may for the time being prove much more satisfactory, but it hinders progress instead of helping it. We cannot leap over chasms in our knowledge; we must patiently traverse them. With the scientific enthusiasm that inspires the rising generation of medical men, however, there seems every reason to hope that with the new century we are on the eve of great advance in medicine. Beware of the wings of facile theory, must be the watchword. Trust only the faithful staff of patient observation and investigation.

Prof. Pavlov, who was expected to deliver an address on "Experimental Therapeutics as a New and Fruitful Method of Physiologic Research," was unfortunately absent and the address was not delivered.

The "Moscow Prize," consisting of five thousand francs, was awarded to Santiago Ramon y Cajal, Professor of the Faculty of Medicine of Madrid. The winner of the prize is only forty-six years of age and already has an international reputation for his clinical, pathologic, and laboratory researches. The first Moscow Prize, which was conferred in 1897 at the Moscow meeting, fell to M. Henri Dunant, the founder of the Red Cross Society. The selection of M. Dunant as recipient of the prize was suggested by Prof. Virchow, President of the Russian Congress.

This prize is not awarded for theses presented, but for eminence already obtained in some department of original research.

President Loubet's reception at the Elysée Palace on Friday afternoon proved a brilliant and interesting fête. The Mayor's reception at the Hôtel de Ville Saturday afternoon, while less formal than the former, proved likewise a most enjoyable function. The Americans, both ladies and gentlemen, were in evidence in full numbers.

It was decided to hold the next Congress in 1903 at Madrid.

The Secretary's Address.—The Secretary-General, Dr. A. Chauffard, followed the President, Dr. Lannelongue, with an address in which he stated the preliminary work done and its results. Altogether 260 special reports on scientific subjects are announced and over 1200 communications on medical topics.

Dr. Chauffard called attention to the contrast between the present International Congress and the first one held in Paris in 1867. Then there were present only 333 French medical men and 589 foreigners. It is a pleasure to find among those present to-day some who were here 33 years ago; for example, Virchow, whose glory is ever young though constantly growing, and the venerated Cortejarena. The path of the wanderings of the International Medical Congress has led it through Florence, Vienna, Brussels, Geneva, Amsterdam, London, Copenhagen, Washington, Berlin, Rome, Moscow, and now finally Paris again. It has continued to grow in influence until now no one is skeptical of the great good it accomplishes in the contact of men and ideas. The present Congress promises to excel all preceding meetings in its influence on the medical world and scientific opinions. We have only to hope that it shall be a shining example to stimulate to still further efforts in the glorious work of the relief of suffering humanity.

After the Secretary the delegates from the various countries expressed the thanks of their nations for the invitations to the French capital. For Americans Prof. Osler was to have been the representative, but he was called away the day before the Congress by the serious illness of his brother. Dr. Robert F. Weir, of New York, replaced him. The Surgeon-Generals of the United States Army, Navy and Marine Hospital service were unable to be present at the Congress because of the condition of affairs in China. Major Legarde, however, represented the Army of the United States, and spoke of the stern duty that, at the Antipodes, is calling civilized nations to set their shoulders together and the pleasant duty that calls together here in Paris the medical men of the world to plan for the relief of human suffering.

Social Features.—In general the arrangements for the Congress were excellent, and as was to be expected of the French, the program of the social side of the meeting was especially well planned.

[To be continued.]

THE NEW YORK ACADEMY OF MEDICINE.—SECTION ON MEDICINE.

Stated Meeting, Held Tuesday, April 17, 1900.

The Secretary, E. Franklin Smith, M.D., in the Chair.

The Iodides in Aneurism.—Dr. Lewis F. Bishop gave a detailed report of cases of aortic and other aneurisms treated with the iodide of potassium. In all of them the subjective symptoms of pain, pressure and discomforting pulsation were greatly relieved. He said that in the midst of the many and newer methods of treatment suggested for aneurism, it must not be forgotten that the oldest remedy, iodide of potash, is also the most reliable for the relief of the annoying symptoms that made life often so unbearable for patients suffering from aneurism. The remedy has no radically curative effect, but as a palliative measure there is nothing to equal it and it should be employed freely in every case.

Gelatin for Thoracic Aneurism.—Dr. Lewis A. Conner reported three cases of thoracic aneurism treated by gelatin injections. Lancereaux's report of five cases of aneurism treated successfully by means of gelatin injections attracted the attention of the medical world. Lancereaux's experiments in this line were made as the result of the observations of Dastre and Floresco on the effect of gelatin injections in heightening the coagulability of the blood. This property of the gelatin injections has been denied by other observers and it is probable that the original observations were a mistake. This fact did not come out, however, until the injection of gelatin had been tried by a number of medical men and surgeons. Dr. Conner's three cases were under observation in the Hudson Street Hospital. None of them was successful. The cases were not under observation long enough to give data for a final conclusion, but the result seems sufficient to indicate that gelatin injection not only do no good but cause severe pain locally and often considerable constitutional reaction. Lancereaux's method was to take four to five grams of gelatin and make a solution of it in two hundred cc. of normal salt solution. This was kept for several days at a temperature of 38° C. If no cloudiness developed nor any other sign of micro-organismal growth the liquid was injected subcutaneously, usually into the patient's thigh. After about a week another injection was made and the treatment continued at regular intervals. Special directions were given by Lancereaux not to palpate the aneurism during the course of the treatment. At first the French surgeon used a two-per-cent. solution of gelatin; later, however, he used a one-per-cent. solution. He claimed that there was no pain or local reaction after the injection and no constitutional effect to be no-

ticed. Other observers, however, besides Dr. Conner did not find this to be the case.

Dr. Conner's first case was an aneurism of the descending arch of the aorta in an Italian laborer fifty years of age. There was a large pulsating tumor easily to be felt at the back. The pressure of the aneurismal tumor had caused erosion of the ribs and the pain of the erosion process was most intense. The case seemed to be one of saculated aneurism and it was in these particularly that Lancereaux claimed good results from the injection treatment. Three injections were given, but absolutely without improvement. Three days after the last injection the patient was taken with a fit of coughing in the midst of which there came a gush of blood followed by death. At the autopsy it was seen that death took place from rupture of the aneurism into the esophagus. Most careful examination of the aneurism postmortem showed that its walls were covered in part with old clots and in part were entirely bare. At no part of the aneurism, however, was there any sign of recent clotting such as might be expected if Lancereaux's theory of the increased coagulability of the blood after gelatin injections were true.

In the second case the aneurism was one of the transverse and descending aorta and of the innominate artery. There was some slight improvement of the subjective symptoms after the gelatin injection. There was considerable local reaction and no little pain. The patient was kept in bed for six days before the first gelatin injection was given and this was followed after eight days by a second injection. A few hours after the injection the temperature rose to 102.6° F. and the pain was even more severe than after the first injection. The pain caused by the other injection was so intense that morphine had to be given. Local inflammatory reaction was the rule after the injection, although this did not go on to suppuration. It mattered not whether the injection was given in the thigh or the abdominal wall, the pain was always severe, especially if a second injection was given at the same point as a previous one. Finally, the suffering became so intense after the injections as to make it unjustinable to proceed further with this method of treatment. When the treatment was begun there was a slight pulsation noticeable posteriorly. This disappeared after the second injection. The subjective symptoms also improved. The patient was seen five months later and no further progress of the aneurism was detected.

The third patient was a bartender, forty-five years of age, who was suffering from unmistakable signs of aneurism of the transverse aorta, including tracheal tugging. The first symptom of the aneurism was noticed nine years before when a high-pitched and husky voice developed as the result of a palsy of the left vocal cord. This did not increase and no other subjective symptoms were noticed. The day before his admission to the hospital an attack of spasmodic dyspnea developed which lasted for several hours. It was accompanied by very little pain, but the patient was very much frightened. He was given an injection of gelatin which was followed by very severe pain. Eight days afterward a second injection was given into the abdominal wall. This proved so very painful that morphine had to be administered. Despite the injection there was a gradual increase in size of the pulsating area and the subjective symptoms became worse. The injections were so painful that they were discontinued as it was considered that they would do no good in the case.

The experience of others, Dr. Conner said, has been like his own. Futcher of Johns Hopkins reports nine cases treated by gelatin injections. In one case there was a reduction in size of the tumor. In four cases there was marked relief of the subjective symptoms. Futcher considers that the method has some merit, but by no means all that Lancereaux claims for it, and besides it is by no means the simple painless procedure that Lancereaux claimed it to be. Dr. Conner calls attention to the fact that if Lancereaux's directions were followed the patient would be given twenty injections covering a period of five months. During all this time the patient should rest in bed. Rest, as is well known, is sufficient of itself to relieve greatly the subjective symptoms of aneurism and often does away with certain of the physical signs and even lessens the size of the aneurism.

Rupture During Gelatin Treatment.—Dr. Lewis reported a case of large sacculated aneurism of the aorta which presented as an almost fluctuating mass resembling an abscess in the anterior thorax. It had eroded its way through the sternum and ribs. Gelatin injections were given, but the local pain was very severe and there was a marked rise of temperature and also a great sense of discomfort. The second injection was followed by even worse pain than the first and by considerable local as well as general reaction. Three days later the aneurism burst externally. No autopsy could be obtained, but the aneurism was of the sacculated variety which Lancereaux claimed were especially favorable for treatment by gelatin injections. Of course, the condition of this patient was so bad that an unfavorable conclusion as to the success of this form of treatment is not justified. The local and constitutional reaction noticed, however, was sufficient to discourage further use of the method, especially as not the slightest bit of relief followed in the subjective symptoms nor the slightest improvement in the physical signs of the aneurism.

Rabies in New York City.—Dr. R. J. Wilson said that there is in some doctor's minds even yet a doubt as to the existence of rabies in this country. It is true that cases reported as rabies in the daily papers are usually other dis-

eases. But there is undoubtedly a number of cases of genuine rabies constantly occurring that should act as a reminder and a warning of our danger from the disease. During the year 1897 as far as possible every bite of an animal reported was investigated. There were two cases of genuine rabies in Greater New York, one of which occurred in Manhattan. In 1898 there were eight cases of rabies in Greater New York, three of them in Manhattan. One of these patients came from Rockland Lake and had never been bitten by an animal. She was a kennel-keeper, however, and a number of dogs had recently died in the kennels, where she was employed, from what was called distemper. The dogs had been allowed to lick her hand and this seems to have been the source of the infection. Two of the patients were bitten in New York City. This year one death from hydrophobia has occurred at St. Vincent's Hospital. The animal that inflicted the bite was killed without any investigation. While the disease is rare among human beings it is not so rare among animals. Rabies seems to be endemic in the borough of Richmond, that is, on Staten Island, where there are ideally favorable conditions for the continuation of the disease. The rabid animal is not able to leave the Island, nor to travel the long distances, sometimes 75 to 100 miles, which affected animals often traverse, before their malady assumes the violent form. During the last few years forty dogs have been sent to the laboratory of the Board of Health of New York, suffering from bites. The animals affected with the disease have come about four to six weeks apart, showing the incubation period of the disease and how the disease is carried on.

Local Treatment.—After an animal bite cauterization is usually practised and has proved by clinical and experimental observation to be a useful precaution. Dr. Park found some time ago by observations on animals that cauterization with fuming nitric acid gave better protection than the actual cautery. It is, however, much more painful and produces a worse scar and an ugly wound that heals very slowly. In human beings, therefore, it would seem that the actual cautery is preferable. An anesthetic should be employed if the wound is at all extensive, because the cauterization must be thorough to be effective. If the cautery is used within a few hours 90 per cent. of the cases will be protected. If the Pasteur treatment is applied at once over 99 per cent. of the cases will not develop the disease. If symptoms of rabies have become manifest, however, then the Pasteur treatment is without avail. It is possible to send the remedy for the Pasteur treatment under special circumstances to a distance. During the past year it has been sent from the laboratory of the New York Board of Health to Newark for the treatment of five persons and to Lancaster for the treatment of six persons. In each case it was delivered by a special messenger. The emulsion of spinal cord does not change within a few hours if the temperature is kept below 70° F. The remedy is not, however, one that it would be advisable to distribute from a central station. It is too susceptible of putrefactive change under unfavorable circumstances and, besides, it should only be administered at the hands of one who is familiar with the methods and with the effects of the remedy. If the bite of the animal has been superficial and the treatment is begun immediately, fourteen days of treatment suffice to guarantee immunity. If the bite has been on the face, or is severe, or if the treatment has been delayed, then injections should be given for from twenty-one to twenty-five days. The best place for the injection is into the loose skin over the abdomen. They are very painful. Patients who are not nervous may be able to go about their work. Dr. Wilson recently gave the injections to a butcher who was able to continue his occupation without losing a single day. Nervous patients, however, suffer very much, and nearly every one will be considerably incommoded for at least a few days during the treatment.

Prophylaxis of Rabies.—Adequate dog-laws would undoubtedly eradicate rabies. All of the bites reported at the laboratory are inflicted by worthless stray dogs. Practically none of them are valuable enough for their owners to secure a license for them. In all the history of the laboratory only two licensed dogs have ever been sent to it for investigation as to the cause of their death. If, for instance, on Staten Island, all stray dogs were shot and all other dogs compelled to wear a muzzle, within the year the Island would be absolutely free from rabies. That the making of such a law would be well worth the while, no one doubts. It would impose very little inconvenience on the population generally and it would confer a lasting benefit not only on the islanders themselves, but also on the rest of New York for whom the existence of rabies on the Island constitutes a source of danger.

New York Rabies Case.—Dr. Cronk described the case of a boy of sixteen who was treated at Gouverneur Hospital for rabies. The boy while driving a cat from his home was bitten on the fleshy part of the hand. He went to a drug-store where the wound was cauterized. Six weeks later some pain developed in the scar of the wound and he began to have strange feelings about his throat. Finally, convulsions developed in his anterior pharyngeal muscles. These convulsions recurred whenever he attempted to swallow. They gave a peculiar appearance that at times suggested that he was trying to bite. Noticing this himself he assured those around him that he had no desire to bite. There was intense salivation, which caused him to make frequent attempts at swallowing. These were always followed by convulsive movements

and a sound not unlike a bark. He could look at water and hear it flowing without any bad effect. He was thirsty, but his throat closed up, as he said, whenever he attempted to swallow. He could not take Vichy and milk, owing to convulsions that ensued. His mouth was open, his eyes staring, with fully-dilated pupils and the conjunctiva injected. His teeth were exposed by a contraction of the lips and there was flexion of the neck and spasm of the muscles. He was completely conscious and there were no true snapping movements at any time. When his head was held over a pus-basin and the saliva allowed to flow out of it his tendency to swallow was much relieved and the convulsions did not occur so often. The saliva consisted of clear mucus that flowed in a stringy stream the size of a goose-quill. Two hours after his admission palsy of the lower limbs developed and weakness gradually developed in other parts of the body. When he came in he was able to walk very well from the ambulance to his bed. The convulsive movements of his throat continued. After four hours his temperature had reached 104° F., general convulsions ensued and death took place with his temperature at 107° F. One hour after death his temperature was 108° F. The treatment employed was thirty grains of chloral and sixty grains of bromide, but they produced absolutely no effect.

St. Vincent's Hospital Case.—Dr. Lewis described the case of rabies treated at St. Vincent's Hospital during the present year. The patient was sixty years of age, an Irish laborer who presented himself at the hospital with a lacerated wound of the right face and neck. He said that he had been bitten by a large St. Bernard dog which strayed into his house during the afternoon. The dog had been taken into the yard by his children who made friends with it and the animal seemed very docile and tractable. The animal had taken water very readily and did not seem to be ill. When the patient came home from his work he had been taken by the children to see their new possession in order that he might give them permission to keep the animal. He found it with a rope around its neck, which he attempted to untie. While doing this he pressed on a wound on the animal's neck and the animal turned suddenly and bit him in the face. The animal seemed to be perfectly docile later on and allowed himself and others to approach without manifesting any viciousness. The wound inflicted was four to six inches in length, beginning not far from the angle of the mouth. It was carefully washed out and then swabbed with pure carbolic acid. There was considerable pain and, although the man returned home, he came back to the hospital next day and was admitted to the ward as an interne patient. Twelve days later he was discharged as cured. The parts of the wound sutured healed by primary union. Twenty-one days later he came back to the hospital because of certain symptoms that he had noted. He had not the slightest apprehension of developing rabies. While eating an onion one day, however, he gagged and was unable to swallow it. He attributed this to the onion and not to any difficulty in his swallowing apparatus. Two days later while attempting to take a drink of water he found that he was unable to swallow it because of a spasm in his throat. As this spasm was painful he took an aversion to water. He could eat no supper, passed a restless night and in the morning could not eat any breakfast. He went to the Pasteur Institute for treatment, but was told that the treatment would then be useless. When he came to the hospital his temperature was 98.4° F., his pulse 80, his respiration 24. He was anxious, more than hysterical, complained of thirst, had a sense of impending death, and suffered greatly from tonic spasm of the muscles of the throat. He was given bromides and nutrient enemata. Water disturbed him only when he attempted to drink. The urinary examination was negative. His mouth was dry and in contradistinction to Dr. Cronk's case there was never the least salivation. His mind remained perfectly clear to the end. There was inspiratory dyspnea and a grunting sound was made every few minutes which might have been taken for a bark. His temperature rose until the third day when it was above 103° F. There was a sudden drop of temperature on the day of his death and coma developed with a fatal termination.

Infectiousness of Saliva.—Dr. Wilson said that in the care of patients suffering from rabies it is especially necessary to take great precaution with regard to the saliva. While there are no cases on record of infection by this means, there is no doubt that the saliva carries the infectious agent of the disease. Too much care can not be taken, therefore, with regard to basins, towels, the hands of the patients, the sheets, pillow-cases, and other things that come in contact with the saliva. In every case of dog-bite that comes for treatment, the patient should be asked whether the bite was inflicted by a stray or by a known animal. If by a stray animal then the case should be suspected and for safety's sake the Pasteur treatment should be advised. In the case at St. Vincent's Hospital investigation should have been more thorough than it was, and the animal after being killed by the police should not have been carted away by the Street Cleaning Department without an investigation having been made.

Dr. Lewis said that the investigation of cases of dog-bite does not belong to the hospitals properly but to the Police Department. Every dog shot by the police because of a bite inflicted by it should be carried to the laboratory of the Board of Health. In the case treated at St. Vincent's Hospital there was absolutely nothing to arouse suspicion of the existence of rabies in an animal that had allowed children to play with

it for an entire afternoon. If the instructions issued to the police with regard to the disposal of animals they kill had been followed in this case, it is probable that this life would have been saved.

Dr. Conner recalled the fact that the pathologist of New York Hospital some years ago died of an obscure paralysis for which no reason could be found. It developed not long after an autopsy on a dog which had died from rabies and it was thought that his disease was really the paralytic form of rabies.

Digitalis as a Therapeutic Agent.—Dr. William H. Porter said that digitalis contains a number of active principles some of which are opposed in their action to others. The glucoside group of compounds, so-called because glucose can be obtained from them by certain chemical reactions, are very different to the group of compounds in digitalis which contain nitrogen and are called alkaloids. The infusion of digitalis contains digitalin and digitonin in which are soluble in water. Each preparation is, however, apt to be different from others, because of freshness or variety of the leaves from which it is prepared. The powder of digitalis contains all of the active principles and the extract resembles it very much, but the extract is apt to be precipitated by the menstrum in which it is administered. There is really no such thing as a cumulative action of digitalis. There is no storing-up of the drug in the tissues with a sudden liberation of it after a certain quantity has been absorbed. There is another explanation which accounts for its anomalous action under certain circumstances It acts as a direct muscle-poison when used to its physiological limit and this leads to atonicity of muscles with sudden manifestations of symptoms. Digitalis administered to its physiological limit always acts in a manner to hurt the heart eventually. It should not be used as an ordinary heart-tonic. In lesions of the mitral valve it always does good mechanically, although its continuous use usually results in harm because of its action on the heart-muscle. In lesions of the aortic valve it never does any good. It is only of service, and even then for but a few days, when the veins are overfilled and the arteries are relaxed. It then acts by toning up all muscular tissue in the vascular system and so the blood is pumped from the venous to the arterial side of the circulation. Other remedies are always needed to carry on the work which has been begun by digitalis. Nitroglycerin obviates certain of the disadvantages of digitalis, but not all. The combination of the two remedies is better than digitalis alone, but is usually not the best treatment for the patient. There are other remedies without its drawbacks. Digitalis, while usually a good diuretic, often fails to act upon the urinary secretions.

Infusion of Digitalis.—Dr. Weber said that the infusion of digitalis has always given him satisfaction. He does not use the ready-made infusion, however, but has it made to order from the English leaves of digitalis. He stops its use for a day or two after six ounces have been taken and then resumes it. He is very seldom disappointed when using digitalis in this way and thinks the infusion quite as active as the powder.

In closing the discussion Dr. Porter said that it is very easy to lay a man, suffering with aortic regurgitation, on his back by the use of digitalis. It is of use only where venous engorgement exists. We do not need to appeal to observation on animals to prove this. Enough experiments have been made on the human subject to justify this conclusion. Dr. Porter has seen acute dilatation of a most intense character develop as the result of the administration of digitalis in aortic disease. The patient was not even able to raise himself in bed for six weeks and it was only by the aid of other cardiac tonics that he was successfully brought back to his original condition. The action of digitalis always heightens the speed of the circulation in the coronary arteries and so permits less time for the nutrition of the heart-muscle. This is a serious danger that is ever to be kept in mind.

The tincture of digitalis when made from the fresh leaves is the most certain preparation that we have. Many tinctures that are on the market are absolutely worthless because they are made from old leaves. There was an old druggist here in New York whose tincture of digitalis was famous for its strength and uniformity. The old gentleman used to go down to the dock when a vessel was announced bringing digitalis leaves, and make his tincture of digitalis for the year all at once from the fresh leaves.

REVIEWS.

Essentials of Diagnosis. Arranged in the Form of Questions and Answers Prepared Especially for Students of Medicine. By Solomon Solis-Cohen, M.D., Professor of Clinical Medicine and Therapeutics in the Philadelphia Polyclinic, etc., and Augustus A. Eschner, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic, etc. Second Edition, Revised and Enlarged. Philadelphia W. B. Saunders, 1900.

The rapid appearance of the second edition of this work is sufficient evidence of its popularity. It contains in a remarkably clear and concise manner the important points in the diagnosis of most internal disorders and will continue to be of value to those whose time does not permit the study of more voluminous text-books. Considerable stress has been laid upon the physical diagnosis of diseases of the lungs and heart. A thorough revision brings the subject matter well up to date.